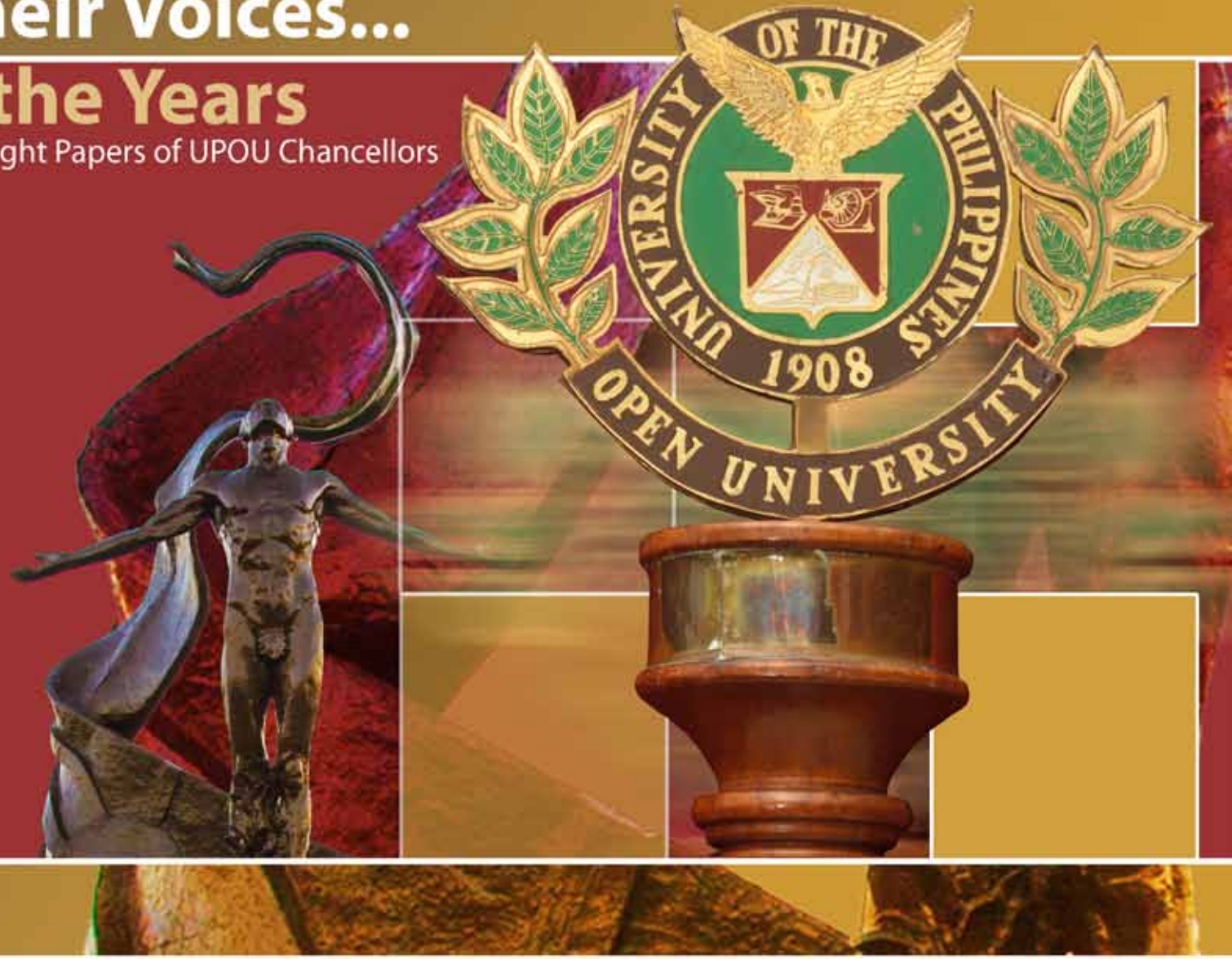
# Through their Voices...

# Through the Years

Thought Papers of UPOU Chancellors




Melinda F. Lumanta
Editor

# Through their Voices… Through the Years

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**(Thought Papers of UPOU Chancellors)**
Editor: Melinda F. Lumanta






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UPOU Headquarters
Los Baños, Laguna 4031, Philippines
Tel/Fax: 63-049- 536-6015
Email: ovcaa@upou.edu.ph/oc@upou.edu.ph
www.upou.edu.ph

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Managing Editor: Alvie Simonette Q. Alip
Production Coordinator: Marian P. Tatlonghari
Language Editor: Leah Lyn D. Domingo
Book Cover Design & Layout Artist: Eric John F. Azucena
Photo Researcher: Eleanor Payawal-Manipol

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# Foreword

On 9 December 2014—almost 20 years after the foundation of the University of the Philippines Open University (UPOU)—President Benigno Aquino III signed Republic Act No. 10650, or the Open Distance Learning Act (ODLA), mandating the expansion and further democratization of "access to quality tertiary education through the promotion and application of open learning...and the use of distance education as an appropriate, efficient and effective system of delivering quality higher and technical educational services in the country." [1]

The law also tasks UPOU with assisting and providing expertise to the Commission on Higher Education (CHED) and the Technical Education and Skills Development Authority (TESDA), specifically, to provide leadership in the development of Open Distance Learning (ODL) in the country; promote best practices and share knowledge through informed and innovative research on ODL; provide technical assistance to the CHED and TESDA in the development of basic curricular design and formulation of national policies, standards and guidelines; and assist other educational institutions in developing their own ODL programs.

Today, we fortunately find ourselves in the midst of a truly remarkable social and cultural movement or evolution, one driven by the rapid developments in technology. The ODLA's enactment is the latest step in this evolutionary process—a positive recognition, and acknowledgment, of the reality that almost 2.3 million Filipinos are working abroad and that they communicate with their families through social media networks and the Internet.[2] Of the 39.4 million Filipinos who use the Internet,[3] 71 percent fall between the ages of 15 and 34;[4]

The Philippines has the fastest growing Internet population in the world,[5] with Internet penetration climbing from 2 percent in 2000 to 36 percent in 2012; and the number of mobile phone subscribers is around 110 million and rising.[6] As the movement toward globalization and regionalization intensifies the need for a highly skilled and highly adaptable labor force, the demand for quality higher education and continuing skills training continues to correspondingly increase. Keeping pace with this is the availability and accessibility of the technology that would enable the quick, efficient, and flexible delivery of this higher education and skills training.

Open distance learning (ODL) is, quite simply, the face of education in the 21st century.

For the past two decades, UPOU has been at the forefront of this evolutionary wave—exploring technologies and delivery systems, rethinking pedagogical philosophies, and taking higher education into new and exciting frontiers. Through the use of ODL, UPOU makes UP's brand of high-quality education and the UP learning experience accessible to more Filipinos, especially those living in areas too distant from any of UP's traditional campuses; accessible to workers and professionals, who have little time for conventional schooling, and to overseas Filipino workers (OFWs) living overseas, and their families and children.

I affirm and re-affirm the long-standing sentiments of the UPOU's chancellors, past and present: By making the UP education accessible to all Filipinos everywhere, regardless of geographic location or time constraint, we are actually helping build the informed, independent-minded, and ethical citizenry our country needs.

UPOU is also critical of the fulfilment of the University's mandate, not just in terms of democratizing access to UP education, but also in terms of UP's quest toward internationalization. Access to the traditional UP campuses is limited—our classrooms and lecture halls can only accommodate so many. This curbs our capacity to take in foreign students, since we must give priority to our Filipino students. But with the UPOU's essential character, there are no such constraints. UPOU can accept any number of international students, thus boosting UP's status as a regional and global institution.

This collection of papers, lectures, and speeches by the UPOU's chancellors offers a wealth of insights on the ever-shifting landscape of education, technology, culture, and society; the unity and cohesion of their vision, which provides the strong foundation UPOU needs to embrace and harness the winds of change; the challenges these leaders have faced and continue to do so, and the resulting lessons that now become an invaluable resource for all higher education institutions and post-secondary schools interested in ODL. Most of all, this book presents the history and development of the UP Open University, the UP System's fifth and arguably most distinctive constituent university.

I congratulate Dr. Grace J. Alfonso, UPOU Chancellor; Dr. Melinda F. Lumanta, Vice-Chancellor for Academic Affairs; the able staff of the UPOU-OVCAA, and the faculty, students, staff and alumni of the UPOU, on the publication of this book.

And, of course, congratulations to the three visionary chancellors whose words grace this collection— Dr. Ma.Cristina Padolina, Dr. Felix Librero, and Dr. Grace Alfonso. Your collective wisdom will serve to steer the country into the brave new world of ODL.

Alfredo E. Pascual
UP President, 2011-present

On February 1995, the University of the Philippines (UP) Board of Regents approved a resolution to establish the University of the Philippines Open University (UPOU). I recall that a most compelling reason was the realization that it is through distance education that UP could respond to growing demands for quality graduate and undergraduate education even in areas which do not have a UP campus. Its establishment was the culmination of many years of academic debate and deliberation spanning the terms of three UP Presidents. Twenty years hence I am pleased to see the UPOU effectively and strategically responding to challenges in the education sector by providing leadership in open and distance e-learning at the national, regional, and global scene.

While it may have been considered a bold and innovative move then, I believe it was the responsibility of the country's premier university to chart new grounds in response to the information technology-based revolution in the field of education. UP, with its cadre of highly qualified and full-time faculty and with the largest number of advanced degree offerings in as many fields of study, was deemed to be in the best position to institutionalize a system of open philosophy and distance education in the country.

During my incumbency as the UP President, UPOU was created as an integral autonomous unit of the UP System and similar to the other autonomous units of the UP System, it is headed by a Chancellor. I believe it is the Chancellor's vision and commitment that define the character and strategic direction of the university.

UPOU, by its nature needed leadership requiring such qualities as creativity, flexibility, determination, inclusiveness to achieve its mandate of democratizing access to a UP education. From its inception and early beginnings I have witnessed the dedication, steadfastness and enthusiasm of its Chancellors, Dr. Ma. Cristina D. Padolina, Dr. Felix Librero and Dr. Grace

Javier Alfonso, as they individually and collectively steered UPOU to become the leading open and distance education institution in the country.

The book "Through their Voices...Through the Years" creatively presents the view from the top. It captures the leaders' thoughts and convictions delivered through their talks in various fora reflecting the realities of a dynamic 21st century educational environment.

Emil Q. Javier
UP President, 1993-1999

# Preface

The University of the Philippines Open University (UPOU), established in 1995 as the UP constituent university mandated to grant advanced degrees by distance education, was envisioned to be the leading educational institution to implement an open philosophy and distance education mode of delivery in the Philippine context.

In its two decades of existence, UPOU evolved from campus-based Schools of Distance Education to discipline-based Faculties under a unique institutional set-up of being part of the University of the Philippines System amidst new developments in the educational scene. It came into being at about the same time that the Internet was introduced in the Philippines, affording opportunities for innovation and experimentation with new pedagogies powered by information and communication technologies and inspired by new educational paradigms.

The book chronicles UPOU's journey by providing glimpses of how the fledgling institution interpreted the educational environs and addressed the issues and challenges of the times through the speeches and talks delivered by its leadership through the years. The discourses are grouped according to the administrative terms of UPOU Chancellors roughly coinciding with the growth phases of the institution. Each phase is introduced by a bio note that candidly introduces the person behind the speeches; each Chancellor's inaugural or investiture speech is likewise presented as a first peek into the leader's thoughts as to how one intended to arrive at a desired institutional state of being - a road map that would define the vision of what UPOU was to become under his/her watch.

Varied in tone, emphasis and approach, the talks reveal the unique circumstances of the times, the frames by which these realities were assessed, and the way the leadership chose to respond. It is hoped that through their voices, through the years the UPOU story could be told—as it was starting up, as it struggled and came to terms with challenges, as it exerted leadership nationally and regionally, as it continues to carve a niche and express itself as a leading educational institution inspired by the University of the Philippines' highest ideals of academic excellence and public service.

Melinda F. Lumanta
Editor

# Ma. Cristina D. Padolina

Chancellor, 1995-2001

## A Bio Note

Dr. Maria Cristina D. Padolina, the first Chancellor of the UP Open University and currently President of Centro Escolar University, is the *compleat* woman[1]. She excels in all the areas of her life: as wife, mother, mother-in-law and grandmother, as daughter and daughter-in-law, as homemaker, as chemist/scientist, as teacher and administrator, as a Christian and a church member, as a wide reader and a thinker, as an adventurous traveler visiting the North Pole with her husband William, and donning skis for skiing in winter, as art *aficionado* and a lover of plants and gardens, as a coffee drinker, and as a friend. She aims for excellence in everything she does. And she is very much a woman as well in her love to shop, to dress well and be well groomed, and even to collect naughty souvenirs. She is interested in people, and she cares for them, which is probably at the heart of her successful teaching and administrative careers.

As one browses through talks she has given on various occasions, one wonders at the passion underlying her statements. She talks of forces that have been "ramming the gates of the educational establishment,"[2] that "information and knowledge have become powerful weapons that win wars not just in the battlefields… but in board rooms"[3] as well, and that workers must be constantly challenged to "climb steep learning curves."[4] Her passion for information and knowledge arms her with a depth and a breadth of vision that help her to guide the institution she leads with all confidence into the future. It is an all-seeing, all-feeling vision fully cognizant of the cacophony of forces in this emerging and often bewildering global society of the twenty-first century. Her step into the future is firm and confident for she is guided as well by an abiding faith in God.

Yes, Tina has an abiding faith in God, an essential part of the *compleat* woman, which can be deduced from a number of reflections she shared with members of her church, the Church Among the Palms.[5] It is interesting how the mind of a scientist can find analogies in science to reflect on the relationship of man to God as in her talk *Moon or Black Hole?*[6] Like the light the moon receives from the sun and which it reflects to the earth, man too should reflect the light he/she receives from God and let it shine on other people. Man too is a moon to God's light. Would one like instead to be a black hole, "a region in the universe where gravitational attraction is so strong that nothing, not even light, can escape from it"?[7]

Another very interesting talk reflects on force, the force that is a gift from God, an idea which Tina draws out from Psalm 23. God's force, says Tina, has both "strength and direction."[8] In physics, Tina points out, force is an "entity with a magnitude and a direction."[9] She also cites the movie series *Star Wars* in which "… a mysterious source of power …guides the heroes to victory and …allows them to subdue their enemies who are of the dark side."[10] How does man receive the force and harness it? Tina believes that we must have faith, for with faith will come the strength and direction of God's FORCE.

In another talk, Tina speaks about spiritual resonance for which her analogy is to physical resonance.[11] She explains how this physical condition takes place, for example, when tuning in to a radio station by turning the dials to get to the right frequency. Similarly, in prayer, man tunes in to God's frequency when he/she prays. This matching of frequencies between man and God Tina calls "spiritual resonance". However, to find the right frequency in prayer is not as easy as turning the dials of a radio. Only when the conditions of true prayer are met will there be spiritual resonance so that man receives spiritual grace and energy from God.

This woman of faith stated in her inaugural address[12] as Chancellor of the UP Open University, that when the UP Board of Regents appointed her as Chancellor, they had more faith in her than she had in herself, but she put greater faith in God. In that address (in 1996), she stated that the UPOU is to become one that "gives emphasis not on the transmission of knowledge but on the creation in the student of a learning disposition…"[13] The battle cry of the UP Open University is quality education for quality life for Filipinos.[14] This battle cry of the UP Open University may well be a battle cry for nation building, and is still as relevant today as it was almost twenty years ago. Her philosophy as a teacher is as vital and compelling today as it was then:"Instruction…emphasizes building the student's capability not just to listen or to read facts but to process the facts to generate new knowledge; not just to accept facts and information but to question, to reinterpret, to process and relate to the known and extrapolate to the unknown."[15]

Today, the UP Open University is no longer just an open and distance learning institution but an ODeL, an open and distance e-learning institution. The UPOU has listened to the sirens' song[16] and responded to its beguiling invitation to use technology. Dr. Padolina had foreseen this development after her accession to the chancellorship of UPOU, but she also cautioned to listen not just to the sirens' song but also to the "sober voice explaining the requirements for"[17] the use of technology. She cited Edward Murrow who pointed out that the radio "can teach, it can illustrate, yes, and it can even inspire. But it can do so only to the extent that learners are determined to use it to those ends. Otherwise it is nothing but wires and lights in a box."[18] Responding to Murrough's observation, Dr. Padolina points out that one challenge of technology "lies in the application of human creativity to transform the wires and lights into teaching and learning activities,"[19] but she points out the need to proceed with caution in providing the requirements for the application of technology.

In a talk Dr. Padolina delivered to the Philippine Chemistry Congress on May 22, 2000, she spoke of a theory of learning and knowledge which had fascinated her, the constructivist theory.[20] The world is experiencing the explosion of information and knowledge, says Dr. Padolina, which has resulted in a "new world of work". These developments have an impact on education, she explains, for "workers…(will) need constant retraining" and "knowledge seekers will no longer be confined to those twenty years or below."[21] What does this mean for the workers who wish to continue to be employed or to be productive citizens? Lifelong learning seems to be the answer.[22] What will be the effect of these factors on education? There will be more adult learners, a need to reassess how to handle the new adult

learners, and therefore a need as well to determine the kind of education that will have to evolve under these changing conditions.[23]

Undoubtedly, there will a reshaping of old attitudes to and practices in education, a reshaping that has been ongoing for several years now. What has been emerging is a "meta-theory" or "grand theory" called constructivism.[24] "Constructivisim is about the construction of understanding."[25] This means that a learner must construct his/her own understanding of the world in which he/she lives.[26] Dr. Padolina cites Lockhead who says that knowledge cannot be transferred, that each individual must construct it for and by himself.[27] In this theory, the learner "has to take a major responsibility over the learning process in addition to having a major role in making learning happen."[28]

Was Dr. Padolina's prophetic vision in 2000 being realized now in education? With ODeL in the UP Open University, it would appear that constructivism is taking shape in the UPOU's educational practices. The regular classroom of four walls has been replaced by a classroom in cyberspace. When a student raises a hand in this classroom, the teacher sees the raised hand as a "blinking hand icon on the computer screen."[29] In the UPOU classrooms in cyberspace, the teacher's role as "facilitator and mentor" has been strengthened, and students are encouraged to be truly more independent and resourceful.[30] Much now will depend on how well the "teachers" will manage the students so that the students have no choice but to "construct" knowledge for and by themselves. Will the world be a better place to live in when there are more well informed and knowledgeable people? Will we win the wars in the battlefields of modern life in the twenty-first century?

Paz Eulalia L. Saplala

## Investiture Address

27 February 1996

In behalf of the UP Open University (UPOU) family, I wish to thank you for honoring us with your presence this afternoon and for joining us in our celebration of the first anniversary of the founding of this university.

The establishment of UPOU came at a critical moment as our nation joins others in a new world economic and social order. This new world order, to which UPOU directly relates, is information-intensive and knowledge-based rather than muscle-intensive or money-based. Alvin Toffler called this "today's deepest power shift: the astounding degree to which today both force and wealth themselves have come to depend on knowledge."

The importance of information and knowledge was dramatically illustrated during the Persian Gulf War when precision strike "intelligent" munitions were used and the first targets were the communications network of Saddam Hussein. The United States Air Force's latest secret weapon is not a new bomb but an aircraft equipped to wage an information war.

The peaceful applications of information and knowledge to acquire and wield power are more numerous and no less dramatic. For example, the synthesis of more effective drugs used to be done systematically but tediously by actually preparing various derivatives of known drugs and determining their physical, chemical, and biological activity. This process could take years, decades even. Nowadays, the synthesis is done in computers that model the structure and properties of compounds and assess their potential use as drugs.

The power has shifted from the owners of raw materials, the natural-resource rich, to those who possess the appropriate information and knowledge to design and produce new materials that may out-perform natural products. Futurists predicted these trends years ago: Toffler in "Power Shift" and Peter Drucker in "Managing for the Future," to name just two.

Drucker predicted the restructuring of organizations in the information age. Organizations will cease to be terraced or hierarchical. With information at the fingertips of the members of an organization—literally as information can just be a computer keyboard tap away—management levels will be reduced. Drucker compared these new organizations to an orchestra where there is only one conductor and the instrumentalists have in front of them the same score. The instrumentalists have the information, the musical score, but more importantly they know how to process it so that at the conductor's lead they produce music, not noise. There will be fewer layers of supervision. Decision-making will be decentralized. Individual members of the organization will have more participation in governance. Institutions will be increasingly democratic.

In defending our democracy, the leadership of our country has chosen the correct strategy, that of people empowerment. The power we must equip our people with is knowledge. It is difficult to redistribute wealth but this, too, will come if we take steps to bridge the chasm between ignorance and knowledge among the greater number of our people. We must give our people a handle to this new force that will shape their future and that of our country. President Fidel V. Ramos spoke during his inauguration about winning the future. Knowledge will win the future for our people.

The implication of this power shift is obvious. If our country is to achieve its economic and social development goals, our people need to be intellectually equipped to be able to gather data, process them into information, and generate knowledge.

For a small country with dwindling natural resources, we need to concentrate on developing our human resources. We need to create a knowledge society. But this society cannot be one where only a select few are benefitted; it must be a society where the greater number has access to and can access information, where the multitude are literate and numerate, and where the majority have the capacity to create and manage knowledge.

There are around eight million Filipinos in the age range of 15-19, but only two million or 25 percent of this age group are enrolled in any level of post-secondary education.

In the school year 1993-1994, there were 4.6 million enrolled in the secondary schools nationwide. In the same year, only two million were enrolled in post-secondary and higher education institutions.

If we look at UP's share in providing higher education, the numbers are even more dismal. Of the close to one million graduates of high school in 1994, only 44,000 or 4.4 percent took the UP College Admission Test, and only 10,500 or about 1 percent passed.

In addition, of the close to 1.5 million students in colleges and universities, only about 25,000 were enrolled in UP or nearly 1.6 percent of the total college or university population in the country. No wonder our fellow providers of higher education raise a howl of protest over our disproportionate share of the budget for state colleges and universities.

We cannot continue to ignore the call of the multitude for education nor the need of the present for a knowledge society. The University of the Philippines (UP) is the national university; it cannot turn its back to nation building. UP has thus responded and established the Open University.

UPOU was established to provide an alternative means of bringing quality education to our people scattered on the islands of this archipelago, unable to avail themselves of opportunities for higher learning not necessarily due to lack of ability but because of circumstances that prevent them from doing so. Some cannot afford to take a leave from their jobs as this would mean loss of badly needed income. Some refuse to leave their families even if such temporary measure held the promise of a better job or a higher salary. Still others cannot afford to study away from home as the bigger expense is not tuition fees but the allowance for board and lodging.

UP seeks to reach as many Filipinos as possible, to empower them with education that they may break free from the tyranny of ignorance and build for themselves, their families, and their communities a good life. Quality education for a quality life for as many Filipinos is going to be the battle cry of UPOU.

The road to individual fulfillment is also the road to national growth and progress. It is not only the leaders of UP who recognize this; so do the leaders of our country. President Ramos asserted before his election: "Government must strive to create the social conditions that will enable every individual to fulfill his potential as a human being, and to give his best to national society. Government, therefore, must strike down inequalities of opportunity and open people's access to resources and programs vital to self-development. To me, the most worthwhile social investment government can make is its investments in our country's human capital."

Government support for UPOU is indeed an investment in our country's human capital. Our legislators recognize the significant role that the UPOU can perform in building our nation and they have expressed support.

President Emil Q. Javier sowed the seed over 10 years ago when, as Chancellor of UP Los Baños (UPLB) and Director General of the National Science and Technology Authority, he created a task force to study the use of distance education to upgrade the science and mathematics teachers. This led to the UP System's first formal program offered by distance education—the Diploma in Science Teaching—which was offered by UPLB. From its inception, the program has received continuous support from the Department of Science and Technology. But we would be remiss if we do not mention the contribution of former President Jose V. Abueva who provided fertile soil to this seed when he established the UP Distance Education Program.

Events have come full circle with Dr. Javier's ascendancy to the UP presidency. He proceeded to complete the task he started and obtained the funds needed to water the seed he sowed. The seed has sprouted and now the task of nurturing this young plant that it may come to full maturity and bear fruit has been entrusted to our care and responsibility.

The challenges of seeing to it that this plant grows are tremendous but the need for the fruit is too urgent and compelling for us to set aside or to postpone the task. In 1985, when we called a roundtable meeting to discuss the distance education program for teachers, one of the participants referred to our undertaking as one which is "most needed but very daring." She was correct then and is still correct more than a decade since.

The faculty of this university keep close watch over its tradition of excellence and rightly so. This new member of the UP System—the UPOU—will keep to this tradition but our approach may be different, our mechanisms non-traditional.

The higher education institution that UPOU wishes to become is one that gives emphasis not on the transmission of knowledge but on the creation of a learning disposition in the student; one wherein the student, as Jerome Bruner said, is "an agent of knowledge making" rather than "a recipient of knowledge transmission." This is consistent with our broad goal of widening access to quality education not to create a learned society but rather a learning society. The distinction is important because one refers to a finished product, an end state, while the other emphasizes the continuing process of becoming.

The learning society is not a Utopian dream but rather a necessity in the postmodern age where the corpus of knowledge is vastly expanding. A society of lifelong learners is an imperative in this age of information overload and knowledge explosion. The instructional materials and procedures we shall develop for our courses shall have this perspective in mind.

Note that we are talking about instructional materials and procedures rather than teaching materials and methods, for while the word teaching is derived from the old English word *taecan* which means "to show" or "to demonstrate," the word instruction is derived from the Latin word *instruere* which means "to prepare" or "to equip." Teaching is too teacher-focused; a case of "show and tell." Instruction, however, emphasizes building the student's capability not just to listen or to read facts but to process the facts to generate new knowledge; not just to accept facts and information but to question, to reinterpret, to process, and relate to the known and extrapolate to the unknown.

Developing these materials and procedures is a challenge we recognize and a goal we shall work for. We aim to have students who, in the anticipation of Prof. Westheimer, a Harvard Emeritus Professor of Chemistry, " are able to cope with the books that have yet to be written (and the ones that exist but have not yet been read), with the economic principles that have not yet been formulated, and of course, with the science that has yet to be discovered."

A unique feature of UPOU is its faculty, drawn from the faculties of all of the other autonomous universities in the UP System. Thus, present in this hall are faculty members who also belong to UP Diliman, UP Los Baños, UP Manila, UP Visayas, and UP Mindanao. The strength of these faculties combined is unequalled in this country. Harnessing this potential is a major challenge.

We expect that the faculty will be excited with the new possibilities in instructional design, particularly those which utilize the new tools in communication and information technology. We would like to challenge our faculty to innovate and be creative in their design of curricula to be offered in UPOU. Our university must keep pace

with this rapidly changing world. As Richard Lanham said, "we must think of the curriculum as not a certified canon of revealed cultural truth but a participatory drama in which the student must take part, a drama which is set on a stage but not set in concrete, with dialogue which is there to revise and a plot which licenses us to collaborate with chance—all these together aiming to teach not only knowledge but the way knowledge is held. And this, of course, is how Whitehead defines wisdom."

We would like to produce graduates who have the capacity for independent learning, individuals who can adapt and apply knowledge to effect constructive change in their workplace, their community, and the world—individuals who will be dynamic components for nation building. But most of all, we expect graduates who, having done most of their studies on their own and having acquired the facility for lifetime learning, would also have deservingly earned self-esteem. We need Filipinos confident of the contribution they can make toward building a global village where the Filipino is a respected citizen.

I wish to recognize this afternoon fellow members of this global village who have indicated their intention to help us build the UPOU. We are pleased that some of them are represented here today. These institutions have successfully implemented open and distance learning in their own countries. We intend to use their experience not as blueprints for our university but as mirrors against which to reflect our plans and programs, for we must build our own system suitable to the conditions in our country and to the Filipino culture.

It has been a year since I was appointed Chancellor by the UP Board of Regents upon the recommendation of President Javier. I must say they had more faith in me than I had in myself. But with little faith in myself, I put greater faith in my God.

And if I stand tall, it can only be with the uplifting provided by the family that raised me, my parents—Pia Casabar and Santiago Damasco, the family I grew up with—my brother, Rogelio and my sister, Manesia, and the family that now stands by me—William and our children, Isagani, Ibarra, and Linglingay.

And I wish to share the joy of today and of my life with my friends who have laughed with me and have cried with me and have danced with me.

If I were asked what pleasure there is in this job, I would answer with no hesitation that it is that of working with and developing warm friendships among the faculty and staff of the many units of this university and those of other universities, particularly Ateneo de Manila University and De La Salle University.

If this load is lighter, it is because no less than the Chancellors of the other autonomous universities in the UP System provide support to the programs and activities of UPOU. I also wish to acknowledge the patience of the head and staff of the UP System offices in seeing us through our toddler stage.

To the UPOU faculty and other personnel, a few words: Today when I accepted the mace that symbolizes this university, I did so as a conductor of an orchestra picking up the baton. The baton does not produce the music; the instruments in the hands of the orchestra members do that. I recognize that it is incumbent upon me to choose the music and find the right musicians—and I know I have chosen some brilliant ones, but the total performance cannot depend on the conductor alone for, in fact, she is absolutely dependent on each of the musicians playing well.

Today we celebrate the common privilege and joy that is ours to build this university. Let us do our task as the UP Code calls for—"according to our best lights"—no less for our God and country.

Mabuhay ang Filipino!

## Use (and Misuse) of Technology in Distance Education

8 May 1997

There have been many statements about technology per se or technology in education. I have selected two: one is contemporary from our own organization, the UP Open University (UPOU), and one is decades old from a radio broadcasting pioneer. These two statements beautifully articulate the theme of my talk.

The first statement is by Dr. Paz Eulalia L. Saplala, UPOU Vice Chancellor for Student Support Services. Writing about the learning needs of the information generation, she said, "Like the sirens with their enigmatic song in mythology, technologies beckon, tempt, lure, because they are new and exciting, innovative and challenging.... Not to respond to the sirens' song is to be out of step, bound in traditional (sometimes dull) learning models."

The second statement was made by an American broadcast journalist, Edward R. Murrow, early in his career in broadcasting. Referring to the radio, although the statement can apply to any technology, he said, "This instrument can teach. It can illustrate, yes, and it can even inspire. But it can do so only to the extent that humans are determined to use it to those ends. Otherwise, it is nothing but wires and lights in a box."

These two statements imply two challenges to educational institutions as they confront the use of technology in their programs. The first challenge lies in our response to the selection of the sirens, for there are many. The second challenge lies in the application of human creativity to transform the wires and lights into learning activities.

The sirens sing of the strengths and the advantages of the technology. But we also must listen to another voice intoning their weaknesses and drawbacks. So, too, must we listen to the sober voice explaining the requirements for their use. And we must look at the technology not in the milieu of the sirens but in our own context as a teaching institution—our organization, our students, our teachers, and, yes, our finances.

**Development of Distance Education**

Before I discuss technology, allow me first to say something about distance education which will put in context our discussions about technology. If there are generations of technology, we can also talk about generations of distance education. The first generation distance education is sometimes called the correspondence model because correspondence study is its typical form. The first generation distance education is characterized by the predominant use of a single technology and lack of direct interaction between the student and the teacher, which originates the instruction.

The second generation distance education is characterized by the use of integrated multiple media. In this model, instructional materials are specially designed for study at a distance, and provisions are made for the student to have two-

way communication yet still not directly with the originator of the learning materials but with a tutor. This is the model currently practiced at UPOU where we have study sessions with tutors at learning centers to complement the learning packages we provide students.

The third generation distance education is characterized by direct two-way communication between the student and the teacher, which originates the instruction and, in many cases, also direct communication among students. An example of this is the interactive studies via satellite conducted by the Open University of Israel where students in remote classes view live lessons transmitted from a central studio, ask questions, and receive responses.

From these models of distance education we can see that distance education has progressed as technology has progressed. This is not surprising since distance education is characterized by the separation of teacher and learner in distance and time, and technology has been used by educational institutions to bridge this gap—print technology at first, the only one available in a long time, followed by other media and technologies (e.g., radio, TV, audio tapes, videotapes, teleconferencing, computer networks) as they became available.

**Media and Technology**

At this point, I would like to say something about media and technology. The term "medium" is used to describe a form or method ofcommunication, each medium having a unique way of presenting and organizing knowledge. A medium, however, may be carried out using different delivery technologies. For example, television, which is also called video, is amedium that may be delivered by satellite, cable, terrestrial broadcast, video cassette, or video disc.

The five most important media in education, according to Tony Bates of the University of British Columbia and formerly of the Open University, United Kingdom, are human media, text print (including still graphics), audio, television, and computing. Others include practical work as another medium. Table 1 summarizes the relationship between media and technologies, while Table 2 gives examples of one-way and two-way applications in distance education of each medium.

Table 1. The relationship between media and technology

| Media | Technologies |
|---|---|
| Text (including graphics) | Print |
| Audio | Cassettes, radio, telephone |
| Television | Broadcasting, video cassettes, video discs, cable, satellite, fiber optics, ITFS, microwave, video conferencing |
| Computing | Computers, telephone, satellite, fiber optics, ISDN, CD-ROM, CD-I |
| Practical work | Home experiment kits, field work |

Table 2. One-way and two-way technology applications in distance education

| Media | One-way technology applications | Two-way technology applications |
|---|---|---|
| Text | Course units, supplementary materials | Correspondence tutoring |
| Audio | Cassette program, radio program | Telephone tutoring, audio conferencing |
| Television | Broadcast program, cassette program | Interactive television (TV out, telephone in), video conferencing |
| Computing | CAL, CAI, CBT, databases, multimedia | Email, interactive databases, computer conferencing |
| Practical work | Home experiment kits | Summer sessions at learning centers |

**Criteria for Decision-making**

Given the menu of technologies in Table 2, distance education providers need to have a set of criteria for deciding which media and technologies tochoose. Tony Bates suggests the following considerations:

- Access: How accessible is a particular technology for learners? How flexible is it for a particular target group?
- Cost: What is the cost structure of each

technology? What is the unit cost per learner?

- Teaching and Learning: What kinds of learning are needed? What instructional approaches will best meet these needs? What are the best technologies for supporting this teaching and learning?
- Interactivity and user-friendliness: What kind of interaction does this technology enable? How easy is it to use?
- Organization issues: What are the organizational requirements, and the barriers to be removed, before this technology can be used successfully? What changes in organization need to be made?
- Novelty: How new is this technology?
- Speed: How quickly can courses be mounted with this technology? How quickly can materials be changed?

*Access*. This is the primary reason for instituting distance education programs and, therefore, the most important criterion for deciding on the appropriateness of a particular technology. It is, therefore, important for decision-makers to determine the priority target learners to be served, what media are accessible to them, and where learning will take place.

Delivery to the house would certainly be the best way to address the question of access. In developed countries, we may reasonably expect that several technologies can be used: print, audiocassette, videocassette, TV by cable, telephone, or house experiment kits. In developing countries, however, print may be the only one that can be delivered to the learner's house.

Another point to consider is that although a technology like TV may be accessible to homes, it may be inaccessible on account of time. A learner may have a TV at home, but the educational program may be broadcast at a time when the individual is not home. So, unless the person possesses another technology such as the recording VCR, then the medium is not really accessible.

Delivery to learning centers may, in fact, be a good alternative even when the technology is available for delivery to individual houses. This allows for interpersonal student support through contact with tutors and other students, and this is important in distance education.

*Costs*. This is an inescapable consideration in the choice of media. An analysis of costs and cost structure of technologies is essential in making sensible decisions. For example, one must distinguish between capital cost such as the cost of television studio and equipment and operating or recurrent costs needed to operate the equipment, to buy supplies, to pay for electric bills, and to deliver the finished product. There is also a need to differentiate between fixed and variable costs, as well as between production and delivery costs. For example, the cost of the regular staff for TV production is fixed, but the cost of production would depend on the number of programs produced and the kind of production, since location shooting and use of many special effects, for example, would be expensive. On the other hand, once the program is produced, the production cost is fixed for a specific course, but the distribution cost would be variable depending on the number and spread of students.

Without making a detailed cost analysis, we may not be able to answer the question of whether another medium can do an acceptably good job at a lower cost. For example, why write a full self-instructional text if there is an excellent existing, low-cost text for which one needs only to write a study guide or what is called a wrap-around material that may include overviews, alternative explanations, and self-assessment questions?

Conversely, if, for instance, one gets tempted by the sirens' song to use interactive video, one needs to resist the temptation until one answers the question of whether the learners need moving pictures at all. Would the use of the still pictures accompanied by commentary on audiocassette (a media combination called audio-vision) be as effective?

*Teaching and Learning*. While many feel that teaching and learning ought to be the primary criteria in the choice oftechnology, they are less robust as discriminators than access or costs. This is in part due to the flexibility of both teachers and learners, which allows them to make the best of the available medium or technology.

In choosing a medium, we need to be aware that media differ in the extent to which they can represent different kinds of knowledge. For example, print, being a very dense medium, can handle and precisely represent large amounts of facts, ideas, rules, and principles, as well as

detailed, lengthy or complex arguments. Audio does not have this capability, but it is great in handling discussions.

Media also differ in their ability to handle abstract or concrete knowledge. TV, for example, can demonstrate experiments and represent complex social situations, but it is not suitable for providing large quantities of abstract information.

Media also differs in their ability to develop different types of skills. Those that can combine strong presentation and qualities with good learner control are best for skills development. Take, for example, audiocassette vs. videocassette vs. televised, commercially broadcast lecture. Videocassette would be superior among the three, considering its presentation capabilities as well as the control given to the learner in setting the pace of learning.

Given the many pedagogical differences between media and technologies, one must be careful not to succumb to the sirens' song to use a technology simply for a popular mode of delivery such as entertainment-style broadcast. On the other hand, there is also something to be gained in listening to some parts of the song which extol a media's presentation strengths so that a medium is utilized to its fullest capabilities. It is sad, therefore, to see video being used for talking heads-type of presentation when it can present much more. Why make a lecturer go in front of a screen to describe tissue culture techniques when a demonstration can be presented complete with slow motion and close-up features.

*Interactivity and User-Friendliness*. Print is still the most user-friendly medium becauseit is conveniently portable and self-sufficient (i.e., it does not require any other piece of equipment to access it). However, there is a limit to the interactivity that can be incorporated. Use of self-assessment questions coupled with discussions on the range of answers expected is one way. However, print is weak in terms of feedback, not only because it is difficult to provide feedback for questions that require complex responses but also because students can easily access the answers without actively processing the question.

Most learning theories suggest that effective learning requires active participation of learner. They must not simply read, listen or view. Another aspect of interactivity is feedback. Bjorn Holmberg has, in fact, likened good distance teaching to a guided conversation aimed at teaching. This is achieved through a good design of the instructional materials such as the use of embedded questions and feedback.

User-friendliness is also an important factor. "User" here refers not only to the learner, but also to the originator of the materials. Although computer-based learning possibly provides the greatest interactivity, designers and teachers may require considerable training to mount a high-quality material, and students may take many hours to learn to use the technology.

An important aspect of user-friendliness is learner control. Given that the philosophy of open learning is improvement of learner control, we need to consider the extent to which a given technology will allow the learner to control the time, pace, and place of learning.

*Organizational Issues*. Both the external and internal ecologies of an organization must be assessed. For example, we at UPOU would like to mount some courses online, which require the use of computer networks, but we are limited by the telecommunications backbone available in the country. We need either terrestrial telephone lines or satellite facilities. Neither is fully in place.

The use of a new technology also requires a champion at the higher levels of the organization who would be able to get the financial allocation. However, commitment at a senior level is not enough because human resources are needed to utilize the technology. In addition, there is the issue that use of a new technology may take resources that are also needed for other programs of the institution. The leader of the institution must be sensitive to all these issues.

*Novelty*. One might consider novelty as a non-factor, but it can be the most enticing sirens'song—for both users and fund providers. For example, while audio combined with visuals has been found to be highly effective as well as low-cost, it lacks appeal when compared with newer technologies such as interactive video discs and computer networks. Novelty may also stimulate a stagnant and languishing faculty.

*Speed*. The speed with which programs or courses

can be launched is becoming an important factor because of demands for personnel upgrading in most institutions today. But the other side of this factor is the flexibility in updating course materials.

**Conclusion**

The important message of this paper is that decision-making about technology in distance education is a complex process. But we need to keep the goal of distance education or open learning foremost in our minds— to widen access to education. This is important because we would not want to choose a medium and technology that will, in fact, negate the very reason for putting up an open learning or distance education program.

We are aware that there are those who scoff at the fact that our distance education program is very low tech. We can go high tech, but our target groups would not have the technology to receive what we may deliver. We plan to mount some courses online, but we will do so with eyes wide open and keeping in sight only particular groups. The majority of our programs will still be print-based and learning center-supported.

The information highway is not a single straight road; it comprises several roads. Moreover, there is not one destination for all of us. It is important that we keep our goals in sight. As the White Rabbit in "Alice in Wonderland" said, "If you don't know where you are going, any road will do. "Unfortunately, not all roads lead to our desired destination.

Let not the sirens lure us to a fascination of the technology per se, but rather, and I'd like to quote again our Vice Chancellor, Dr. Saplala, "like Odysseus of old whose ultimate sights were set on reaching Ithaca and his wife Penelope, (we) must keep steadfast to the goal of helping the distance learner become a successful learner."


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## Open and Distance Learning

28 May 1998

The coming of the new millennium brings with it an air of great anticipation among individuals and human organizations. We can expect spectacular celebrations to mark the arrival of the year 2000. Academic institutions and the field of education, in general, are not exempt from feeling the winds of change. Talks of paradigm shifts in education have been going on throughout the last decade of this millennium.

The change being felt in education is not without basis and is not mere reaction to the passing of a thousand years. There are forces that have been tapping on and ramming the gates of the educational establishment.

The inertia of tradition, values, and infrastructure is strong in education, and to overcome this is in itself a challenge in education. But the forces impinging on education are equally strong. Some of these forces are not new; they have been building up over the years. It is perhaps the confluence of these factors that now causes breaks in the walls and shifting of foundations of the structure of education.

A force that has not abetted for many decades now is the explosion of information. In my field, chemistry, for example, chemical abstracts in 1986 consisted of 237,223 entries; in 1997 there were 44,338 entries in January alone or a projected 530,056 entries for the year. It is said that the half-life of an engineer's knowledge today is five years. In computer science, it is certainly much shorter. Four or five years of undergraduate studies are not sufficient to master all the information in an area of study. Tony Bates (1995), in his book "Technology, Open Learning and Distance Education," predicted that after formal schooling, individuals would need to be retrained at least five times during their working life. And this is probably true whether the individual is working for a promotion or just hanging on to a job.

It is not just the volume of information which is critical, but also the value which is now accorded to information and knowledge. Peter Drucker (1968), prominent futurist, economist, and prolific writer, predicted three decades ago in his book "The Age of Discontinuity" that one of the critical forces that will mold and shape our future is knowledge. In his newer book "Managing for the Future," Drucker (1992) wrote "The world is becoming not labor intensive, not materials intensive, not energy intensive, but knowledge intensive." There was a time when men of knowledge were used by kings merely as court jesters. The pursuit of knowledge was then a luxury permitted of the wealthy and the privileged. In this decade, information and knowledge have become powerful weapons that win wars not just in battlefields, as we saw in the Gulf War, but also in boardrooms. As President Charles M. Vest of the Massachusetts Institute of Technology (MIT) said, "We are entering an era in which knowledge and the people skilled in its use are the coins of the realm. In such times, we will succeed by our wits rather than by our power and human resources."

The force of knowledge has also given rise to another force causing change in the education scene—the new world of work. James Martin (1996), in his book "Cybercorp," defined this new business revolution as "a corporation designed using the principles of cybernetics... designed for fast change, which can learn, evolve, and transform itself rapidly." Such an organization feeds on knowledge and "needs a knowledge infrastructure to capture and create knowledge, store it, improve it, clarify it, disseminate it to all employees, and put it to use." The workers in a cybercorporation, therefore, must be knowledge workers, required to be constantly learning, to be familiar with information sources, and to be capable of retooling and retraining. An institution, to be competitive, cannot afford to have its workers move comfortably on a plateau of knowledge; it must constantly challenge its workers to climb steep learning curves.

The changing face of the workplace means also a changing profile of the students which educational institutions might expect. With workers needing constant retraining, knowledge seekers will no longer be confined to those 20 years or below. There is a new student group that consists of older individuals. Because they are more mature, they are expected to be more demanding; they would have a good idea of what kind of education they want. And because they are at that age where they would most likely have their own families, they would be looking for a way to retrain or go back to school without disrupting their family life. Another factor which contributes to a greater demand from adults for more education is longer life expectancy. This keeps individuals in the workplace longer.

All the factors I mentioned give rise to a phenomenon that may have been a privilege or mere option to some people years ago but is now considered a requirement not only to stay employed or to continue to be a productive citizen, but also to continue to have a fulfilled life. I refer to lifelong learning.

A further consequence of the factors I have mentioned is the increase in student numbers. We have to address not just the traditional students (ages up to 21 or a bit older for those who take graduate education), we also have to be concerned with adult learners. And we have not even factored in the effect of simple increase in population. According to Sir John Daniels, Vice Chancellor of the UK Open University, the rise in global population alone will require putting up one large university every week just to keep up with the present levels of demand. Add to this the demand for lifelong learning among adults and the demand from population groups previously marginalized due to poverty or geographic and cultural isolation and you have a mega-crisis confronting education.

It is not just the number of learners that educational institutions have to worry about. There are also the questions on the nature of the learner and the kind of education present-day learners need.

Those of us who have been taught for more than 20 years will tell you that students have changed. Some of us will say that Filipino students seem to be less inclined to read. But we should ask ourselves the question, "Do we in our teaching cultivate the habit of reading?" Most of our students do not have their own textbooks and the ratio of books in the library to the number of students is embarrassingly low. Some of us will also say that Filipino learners, with their exposure to comics and television, will not learn well from text alone. Will they learn better from the tube? Dr. Josefina Natividad, our own Vice Chancellor for Academic Affairs, reports that her son, when asked to evaluate a tele-lesson, said that he does not like learning from television because the television is meant for entertainment.

As agents of change, educational institutions must be cognizant of the change desired in their students or what they aim for them to become. We have to prepare our students to be productive citizens of this emerging global society. One of the skills frequently mentioned as vital is effective communication, preferably in more than one language. Businessmen in the Philippines would say that one of those languages should be English.

Because information and knowledge are the prime commodities in the global society, students must learn where and how to retrieve information and how to process data and information and transform these into knowledge. Students must also learn to decide what knowledge to absorb and what to ignore. They must learn how to gather data, to formulate hypotheses, and to test and refine them into theories or junk them altogether. They must be able to think critically and to analyze and synthesize. We certainly do not want to produce information junkies who just gather data, cruise the Internet for hours, and download reams

of data. T.S. Eliot made this point 60 years ago, long before the time of information highways, in his play "The Rock":

Where is the wisdom we have lost in knowledge,
Where is the knowledge we have lost in information?

Another important skill that citizens of our global village must have is the ability to learn independently. Individuals will increasingly be expected to take responsibility for and manage their own learning. They will increasingly need to learn outside the four walls of a classroom, and learn less from traditional teachers, but more from materials and other individuals. They may also do self-assessment, determining for themselves, based on their needs and to their own satisfaction, if they learned enough and well. All these indicate that the learner will be expected to be highly motivated, but more by an internal drive than by a teacher swinging a stick behind them or dangling a carrot in front of them.

A trait often mentioned as desirable in today's world and the future is the ability to work with a team. Issues and concerns are increasingly becoming more complex, requiring inputs from persons with varied expertise. Sometimes it is not even just a case of scientists from different fields needing to work together, but scientists having to work with sociologists, anthropologists, artists, and politicians even. A team player is required not just in the hard court, but also in the workplace where concerns are multidisciplinary and often multicultural. Other personal traits mentioned as desirable are principled or ethical, positive attitudes; keen sense of responsibility for self, nation, others, and the world; and open-mindedness in the face of differences in values, culture, opinion, and of course, color and creed.

Indeed, there is so much expected of present-day educational institutions. Yet governments are not providing corresponding increases in funding. The pressure is for educational institutions to be more efficient. Diane Laurillard (1993), in her book "Rethinking University Teaching," writes that the "pressure is for financial input to go down and some measurable output to go up." We assume that such output should be measured not only in numbers, but also in terms of quality. Of what use are thousands of holders of diplomas if only a handful would be able to hold jobs?

Another challenge that is coming from within the area of education is the progress in what we know about the learning process. Developments in the cognitive sciences, which include neurology, anthropology, linguistics, and epistemology, have provided us with a better understanding about how humans process, store, and retrieve information. One of the most-talked-about theories of learning today is the constructivist theory, which proposes that the learners must be actively engaged in the construction of meaning or knowledge while bringing into the process their own purposes and ideas.

The constructivist perspective combines the didactive perspective, which views the teacher as a presenter of knowledge, and the discovery approach, wherein the teacher is a provider of experiences. This perspective, therefore, alters our view of teaching. As Laurillard contends, the business of teaching is less about imparting knowledge than about mediating learning.

Another challenge being posed on educational institutions is the accreditation being asked by individuals for learning acquired in the workplace, from non-traditional sources, or even through informal means. Thus, in 1996, President Fidel V. Ramos, through the initiative of the Commission on Higher Education, issued Executive Order No. 330, adopting the expanded tertiary education equivalency and accreditation program as an integral part of our educational system. The aim is to provide certification of knowledge or expertise acquired through various avenues toward the awarding of academic credits, or an academic degree even. The challenge to educational institutions is the development of assessment, accreditation, evaluation and monitoring, and credit banking schemes that would give credibility to the process.

Perhaps the most potent force for change in education today is technology, specifically the developments in information and communication technology where products are improving at a fast pace even as costs are going down. These developments have allowed for cheaper, faster, and more effective communication and information processing. These developments not only pose a challenge to education but also propose a means of coping with other challenges. Technology is a multi-edged sword that challenges its wielder.

I'd like to quote several persons who have spoken or written about the different facets of technology and the challenges that technology brings about.

Edward R. Murrow said of the radio, although his statement can very well apply to other technologies: "This instrument can teach. It can illustrate, yes, and it can even inspire. But it can do so only to the extent that learners are determined to use it to those ends. Otherwise it is nothing but wires and lights in a box." One challenge of technology lies in the application of human creativity to transform the wires and lights into teaching and learning activities.

The second challenge that involves use of technology was beautifully articulated by our Vice Chancellor for Student Support Services, Dr. Paz Eulalia L. Saplala. Writing about the learning needs of the information generation, she said, "Like the sirens with their enigmatic song in mythology, the technologies beckon, tempt, lure, because they are new and exciting, innovative and challenging...not to respond to the siren's song is to be out of step, bound in traditional (sometimes dull) learning models." Which technology to use is a critical decision an educational institution must make. The sirens sing of the strengths and advantages of the technology. But we also must listen to another voice intoning their weaknesses and drawbacks. So, too, must we listen to the sober voice explaining the requirements for their use. We must look at the technology not in the milieu of the siren but in our own context as a teaching institution—our students, our teachers, our organizations, and yes, our finances.

In a developing country like the Philippines, however, there is yet another challenge which technology brings about. This is the possibility that technology will, in fact, create another gap between the haves and have nots. President Ramos, in his keynote address during the SEAMEO INNOTECH Conference in November 1997 on the Learning Society of the Future, warned of the creation of an "information aristocracy," referring to those who have the means to navigate the information highways. In his speech, President Ramos said, "This, my friends, is the challenge faced today by the knowledge builders of tomorrow to use what can divide us to unite us; to use technology and knowledge not to get ahead of the other fellow, but to help him move up and forward. We must, in other words, bring technology to bear on human learning in a way that will enrich our common experience as a human family."

Technology, among other things, has brought about another challenge, or a threat even, to traditional providers of education. Because knowledge is considered very important and a very high-demand commodity, many entrepreneurs are eyeing the business of education. The real competitors of educational institutions these days are not the other schools, colleges or universities but the entrepreneurs from outside the academe. President Barry Munitz of the California State University, which has 23 campuses and a third of a million students, speaks of a scenario: "Someday the heads of Union Pacific Railroad, Hewlett-Packard, and the US West phone company are going to appear at a press conference announcing they're entering the higher education business. They'll be in the governor's office bidding for a contract and the governor will call me up and say, 'Where's your bid?'"

We only hope—although we better do more than just hope—that management guru Peter Drucker is wrong this time when he said, "Universities won't survive."

With that pronouncement, it almost looks like there is, after all, only one challenge to educational institutions—to survive. In one sector of our world, the biosphere, survival of a species is sometimes contingent on change. Change is now called for in our universities. Drucker added this to his pronouncement: "The future is outside the traditional campus, outside the traditional classroom." And let me go on to his next statement. He said, "Distance learning is coming on fast."

Yes, I wish to submit that one way the universities will survive the onslaught of the challenges to education we mentioned earlier is to change their ways, foremost of which is the traditional way they deliver education. Open and distance education provides an answer to many of the challenges.

There are two main reasons open and distance learning can answer many of the challenges to education. First, they can cope with large numbers. There are 11 open universities and distance education institutions in the world today, which, together, enroll more than three million students. To give you a better idea of their size,

try to compare that situation with that of the Philippines, which has more than 1,400 colleges and universities, but which enroll only two million students among them. The sizes of these distance education institutions have earned them the tag of mega-universities from Sir John Daniel, the head of one of these universities. They have the potential to enroll and teach the large number of students expected due to the increased demand for knowledge workers and the desire of an increasing number to remain knowledgeable.

The second major reason is that open and distance learning has the flexibility that allows it to fit many a learner's needs or circumstances. It is, in fact, the philosophy of open learning to provide learners with greater control over the learning process, thus allowing them to learn what they need or want to learn at the time, place, and pace that suit them. Individuals previously unable to study because they are not able or willing to leave their jobs for extended periods to attend classes are addressed by distance education. There are many schools and universities that offer evening or weekend classes, but some individuals live too far from the campuses to be able to afford the cost and the time to travel to attend these classes. Distance education is most suitable for them.

To my mind, however, the most important contribution of open and distance learning is the effect it has on the individual who undertakes it. It requires learners to take responsibility for their own learning. It fosters independent learning and mandates for students to be actively engaged in the learning process. Products of open and distance education are therefore better equipped for a world where lifelong learning is no longer an option but a must. As a matter of fact, this is a characteristic that employers find attractive among products of distance education institutions.

Some people will take the view that Filipinos are, by nature, not independent learners and that open and distance learning is not suitable for them. I wish to argue that independence of mind is more an environmentally induced, rather than genetically transmitted, trait. As parents or adults taking charge of the young, we tend to be overprotective of children and we do not encourage them to be on their own. It is time we encouraged the young to be independent because independence of mind fosters creative thinking and autonomous behavior, characteristics we said earlier are important for the global citizen. It is for this reason that one of the objectives of the first undergraduate program of UPOU, the Associate in Arts program, is the development of self-motivated independent learning skills.

Open and distance education also has the potential of cultivating the other desirable characteristics of a global citizen, especially the ability to work with people of different cultural backgrounds. With current technology, in particular, the Internet and the World Wide Web, institutions can offer their courses beyond the perimeter of their physical campus. On the other hand, students can take courses from institutions located overseas. With distance education, classrooms will span the globe, but the students and teachers never have to leave their countries.

While we assert that open and distance learning provide ways for meeting the challenges faced by education, we also recognize that offering open and distance learning programs in itself poses many challenges. To understand these challenges we need to consider the total distance education system in order to understand the components and how they relate to one another. A description of the system is given by Anthony Kaye (1981) (Figure 1), who identifies the four sub-systems: courses, students, logistics, and decision-making and control.

The first challenge faced by an educational institution considering distance education as a means of coping with a given educational need or problem is making the decision itself. Kaye (1981) proposes an algorithm for making such a decision (Figure 2). The first decision point in the algorithm involves determining whether or not the existing educational system, either as it is or upon expansion or further development, meets the educational needs. If there are indications that the existing system is not adequate, then options including a distance education system need to be investigated.

Another challenge that needs to be tackled when setting up a distance education system is the design of the system itself. The main components of the general design of a distance education system can be categorized into three: course development, course delivery and student support, and media or technology.

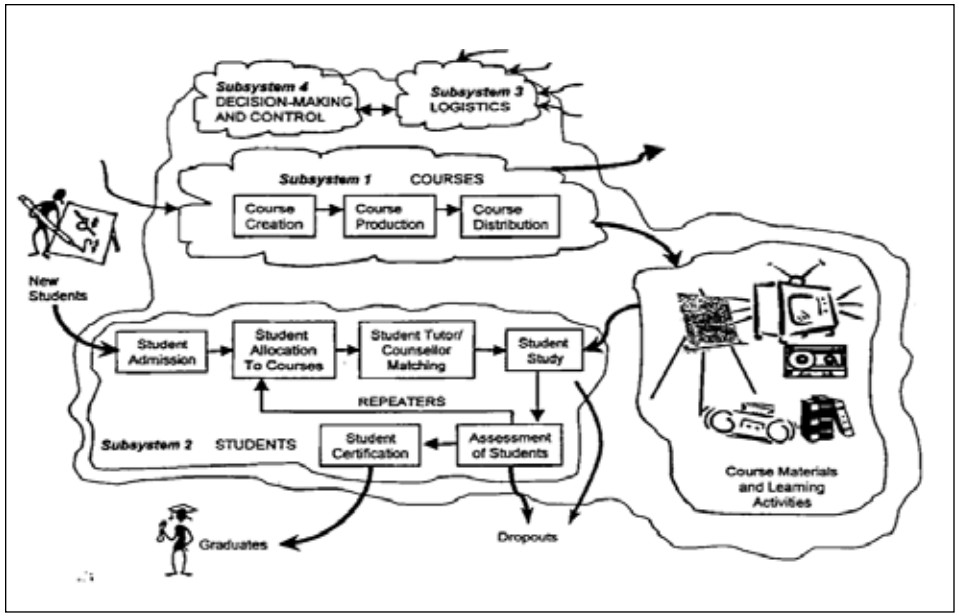



Figure 1. A systems view of distance education (Kaye & Gumble, 1981)

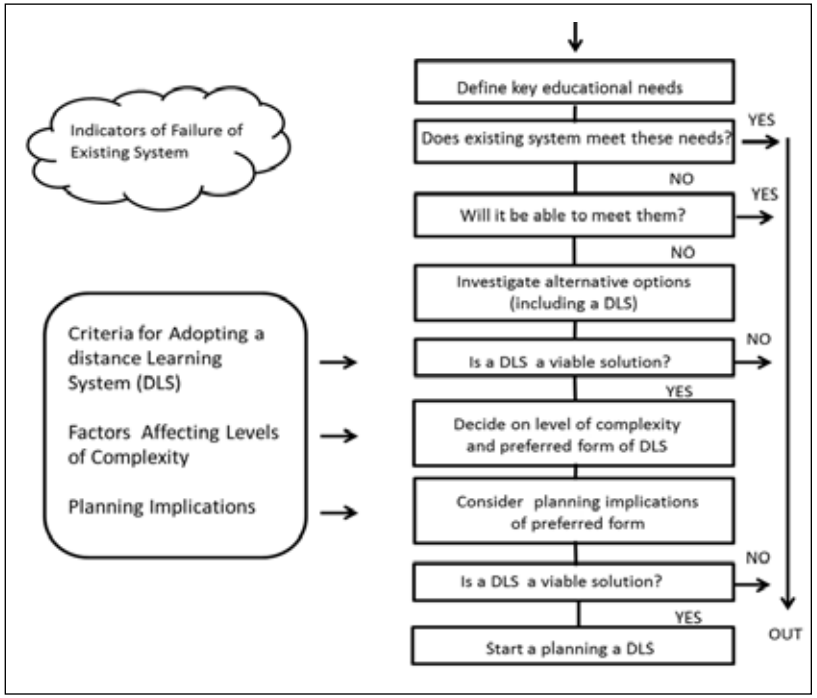



Figure 2. Taking a decision on using a Distance-Learning System (DLS) (Kaye & Gumble, 1981)

The course development component involves the preparation of print and non-print materials to produce a total learning experience for distance students. A major challenge faced by course developers is not the content of the materials per se but how the materials work. The best learning materials must create the want to learn, give opportunities to learn by doing, provide a great deal of useful feedback to learner, and take account of the fact that learning takes place without the immediate supervision of a teacher.

At UPOU, actual course development starts with the organization of our course teams, which we call quality circles. Our course teams include, in addition to the writer as subject matter expert, an instructional designer, a media specialist, an editor for language, and a reader who is another subject matter expert.

In distance education, the instructional material developed jointly by the team is the teacher. Indeed, instructional packages can be so designed that they are self-learning, requiring little or no assistance from anyone. Bates (1995) called these packages "stored teaching" or a "teacher in state of suspended animation." Using what is known about how learning takes place we can design instructional packages to mediate learning, in other words, to be teachers. The duplication of these instructional packages would be like cloning a good teacher, thus producing as many teachers as there are students, if necessary.

The course delivery and student support component provides both administrative support and learning support to the students by helping them become more self-reliant and better able to manage their own personal, educational, and vocational development. The basis for this development approach views the students less as recipients of information but more as active

participants in the learning process. The process creates a more social or interactive arrangement that can occur in mediated settings available through the use of various media forms (e.g., computer conferencing technology) or in face-to-face situations as provided in learning centers.

Hence, at the UP Open University, the Office of the Vice Chancellor for Student Support Services (OVCSSS) was created and tasked with the responsibility to plan, propose, and implement policies pertinent to student services in support of the delivery of instruction to the distance learners. The OVCSSS takes charge of a wide range of activities, including all matters related to registration, assessment of students' performance, and certification or awarding of degrees. Support, therefore, is provided along the three major phases of distance education study—entry, integration, and exit.

The third component, which usually forms an integral part of the other two components, is the media and technology used in developing the materials as well as in delivering the courses to the learners. Tony Bates of the University of British Columbia and formerly of the Open University, United Kingdom identifies the five most important media in education as human media, text or print (including still graphics), audio, television, and computer networks. Others include practical work as another medium.

With the costs and other considerations involved, it is most often that a combination of only three or four of these media is considered. Bates suggests the following set of criteria for deciding which media and technologies to choose:

- Access. How accessible is a particular technology for learners? How flexible is it for a particular target group?

  This is the most important criterion for deciding on the appropriateness of a particular technology. Delivery to the house would certainly be the best way to address the question of access. A good alternative would be delivery to the learning centers. This enables interpersonal student support through contact with tutors and other students, which is important in distance education.

- Costs. What is the cost structure of each technology? What is the unit cost per learner?

  This is an inescapable consideration in the choice of media. It is important that an analysis of costs and cost structure of technologies is made before coming up with a decision to use a particular technology.

- Teaching and learning. What kinds of learning are needed? What instructional approaches will best meet these needs? What are the best technologies for supporting teaching and learning?

  Media differ in the extent to which they can represent different kinds of knowledge. Media also differ in their ability to develop different types of skills. For instance, those that can combine strong presentation and qualities with good learner control are best for skills development.

- Interactivity and user-friendliness. What kind of interaction does this technology enable? How easy it is to use?

  Most learning theories suggest that effective learning requires an active participation of the learner. Learners must not simply read, listen, or view. Rather, there should be the presence of a feedback mechanism or form of interactivity. User-friendliness or learner control is also an essential factor. It is, thus, important to consider the extent to which a given technology will allow the learner to control the time, pace, and place of learning.

- Organization issues. What are the organizational requirements and the barriers to be removed before this technology can be used successfully? What changes in organization need to be made?

  Both the external and internal ecologies of an organization must be assessed. The use of a new technology also requires a champion at the higher levels of the organization who would be able to get the financial allocation. Commitment at a senior level is, however, not enough because human resources are needed to utilize the technology. In addition, there is the issue that use of a new technology may take resources that are also needed for other programs of the institutions. The leader of the institutions must be sensitive to all these issues.

- Novelty. How new is this technology? One might consider novelty as a non-factor but it can, in fact, be the most enticing—for both users and fund providers. For example, while audio combined with visuals has been found to be highly effective as well as low-cost, it lacks appeal when compared with the newer technologies such as interactive video discs and computer networks. There is also the danger that novelty may stimulate a stagnant and languishing faculty.

- Speed. How quickly can courses be mounted with this technology? How quickly can materials be changed?

  The speed with which programs or courses can be launched is becoming an important factor because of demands for personnel upgrading in most institutions today. But the other side of this factor is the flexibility in updating course materials.

The decision-making about technology in distance education is a complex process. We need to keep the goal of distance education or open learning foremost in our minds—to widen access to education. This is important because we would not want to choose a medium or technology that will negate the very reason for putting up an open learning or distance education program.

The biggest challenge facing distance education is quality assurance. This is the question foremost in many people's minds.

The question of quality is answered by distance education institutions at several levels. One is in the development of course materials. In general, quality of course materials is determined by a course writer or writers or the quality circle in the form that is appropriate in both level and content. Dekkers of the University College of Central Queensland, maintains that quality assurance mechanisms are used in all stages of material development. As such, quality assurance is continuous, interactive, and integral to the development and maintenance of quality material.

At UPOU, we are able to tap faculty of all UP units for course development, and this is a major reason for putting UPOU within the UP System rather than as a separate university. We then organize quality circles or course teams that are responsible for producing the course materials.

The success of the student and the quality of learning in distance education are also determined by the learning support services provided to the students. A variety of services is typically provided to the distance education student. The role of the tutor is emphasized in the literature on quality in distance education. This is probably due to the critical role of the tutor in the distance education experience. Benke and Jarman (1993) said that "the greater the tutor's understanding of the student's goals and motivations, the higher the quality of the total learning experience. Thus, one fundamental component in quality assurance is tutors who are student centered".

At UPOU, we provide monthly tutorials to our students, utilizing, in many cases, faculty of other colleges and universities as tutors. UPOU trains these tutors not only in how to manage tutorials (which is not the same as giving lectures), but also in course content.

Indeed, UPOU is coping with the misconception that open and distance learning is poor quality. But the underlying misconception is also that residential education, which is largely attendance in lectures and seminars, is quality education. Admittedly, there are excellent lecturers, but even more are those who do not come to class prepared, those who cannot organize for a lecture what is very clear in their heads, and those who lecture from books which may have been written in a very logical order, but this may not necessarily be the psychological order for learning. There are many other horror stories in classrooms about professors who terrorize their students.

There is also the misconception that the quality of education is measured by the quality of entering students. Thus, open universities, which have open admissions systems with some only requiring a birth certificate as proof of age, are necessarily of poor quality. My argument is that while we, in open universities, throw our doors wide open for students to enter, the doors leading to certification is the same as those in residential universities.

Providing access to quality education is provided for in the Philippine Constitution. This is the challenge that all educational institutions in the country must rise to. But there is a matching

challenge to all individuals who seek education—to seize opportunities for learning in order to bring out their best qualities.

In closing and as we look forward, I wish to share the following statement with you: "The future is not some place we are going to, but one we are creating. The paths are not found, but made, and the activity of making them changes both the maker and the destination" (John Schaar). This statement is rendered more graphically in a "Hagar The Horrible" cartoon:



Bates, A. W. (1995).

Benke, _. & _. Jarman. (1993).

Drucker, P. F. (1968). *The age of discontinuity*.

Drucker, P. F. (1992). *Managing for the future*.

Kaye, A. & R. Gumble (Eds.). (1981). *Distance teaching for higher and adult education*. London: The Open University.

Laurillard, D. (1993). *Rethinking university teaching*.

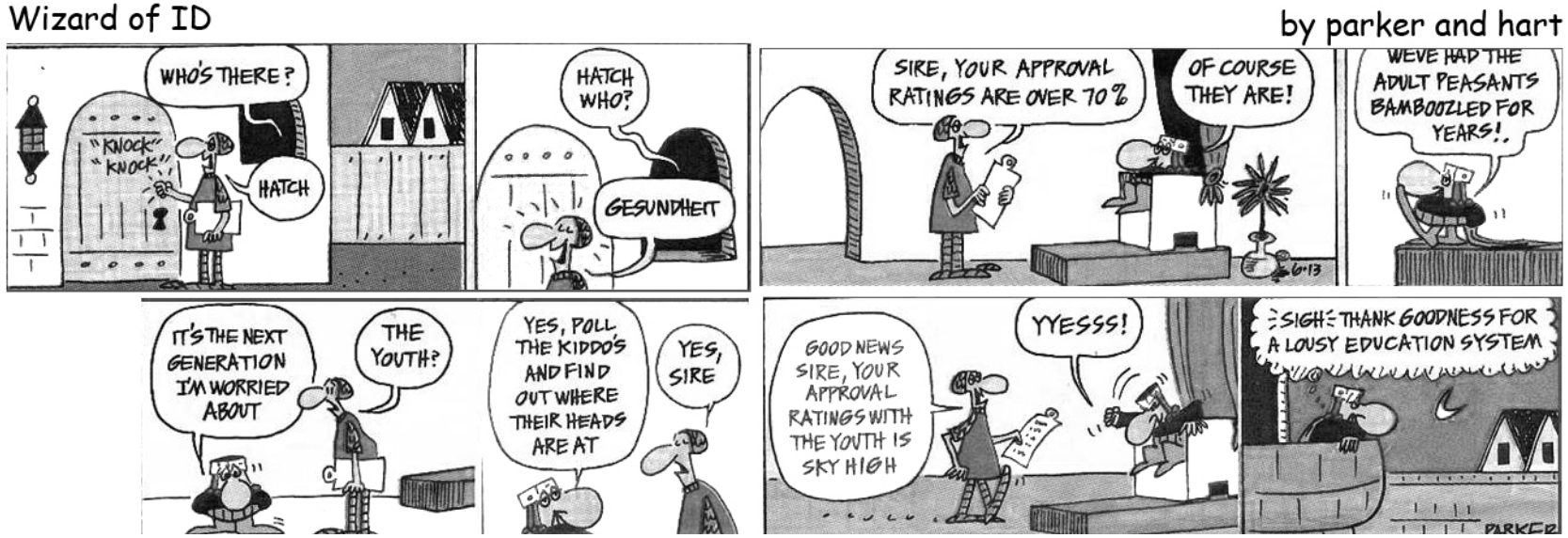
Martin, J. (1996). Cybercorp.


## Higher Education at the Inflection Point

4 August 1999

Greetings!

I was struck by this cartoon which I saw during a recent trip to Bangkok:




Well, thank goodness our education system, for all its weaknesses, is not that lousy -even given the high ratings of our President. But as the designated national university, the University of the Philippines has certain obligations. President Emil Q. Javier, during his term as 17th President of the University of the Philippines, repeatedly said that our University cannot be the only tall and stately tree among stunted ones. It is our obligation to help uplift higher education in this country. This lecture, I hope, will raise some questions that will be in aid of charting the course of higher education in our country.

When I was preparing this lecture and thinking of a title, I was debating between "The Universities of the Future" or "The Future of Universities" There is an assumption implied in those titles—that universities have a future. Do they?

Gerhard Casper, the President of Stanford University, wonders if the university will survive in this environment of information and communication technologies and asks whether we will have a "world without universities." In fact, Peter Drucker, renowned futurologist, has sounded the death knell and said that "30 years from now, big university campuses will be relics." (Peters, 1999)

Perhaps we should not be too worried about Drucker's prophecy. Thirty years ago, he also predicted that "while 'information evolution' will have its most dramatic input on education, teaching and learning may not use computers at all or may use them only marginally" (Drucker, 1969). Well, he was wrong. He could be wrong again.

Nonetheless, there are strong indications that universities are at a crisis point or at what Andy Grove, President and CEO of Intel, calls inflection point (Grove, 1996).

President Javier has always said we must be fluent in three languages—English, Filipino, and Mathematics. The mathematical term, inflection point, should therefore be part of our vocabulary. An inflection point is where the second derivative of a curve changes sign. It is where the rate of change of the slope of a curve changes sign. It is a point where a curve changes its curvature, going from convex to concave, or vice versa, as shown in Figure 1 (Grove, 1996).

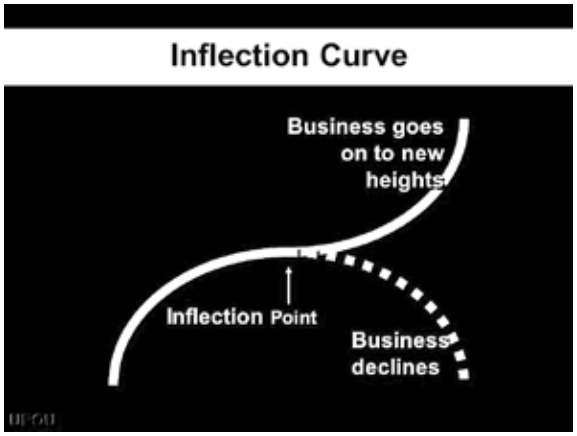



Figure 1. Inflection curve (Grove, 1996).

To say that universities are at an inflection point is a positive view. As Andy Grove (1996) puts it, "An inflection point occurs where the old strategic picture dissolves and gives way to the new, allowing business to ascend to new heights." The title of my lecture, therefore, implies that higher education is at the brink of soaring to new heights.

But Grove (1996) is quick to point out that inflection points are critical points because "if you don't navigate your way through an inflection point, you go through a peak and after the peak, the business declines." Instead of the crisis point being an inflection point, it becomes a maximum in the curve and everything is down from there.

Still quoting from Grove (1996), "The strategic inflection point is the time to wake up and listen." It is a time for institutions to rouse themselves from complacency, from their nest of laurels.

Last year, I gave a talk on the challenges facing education. These challenges can give rise to an inflection point, but I would like to use the analyses adopted by Grove (1996) from Michael Porter's competitive strategy analysis. This analysis outlines six forces that determine the well-being of a business (Fig. 2).


Figure 2. Six forces diagram (Grove, 1996).

Let's redefine these forces and make them specific to higher education and therefore make the following replacements (Fig. 3):

- Existing competitors to other colleges and universities (in the Philippines)
- Customers to students
- Suppliers to faculty (suppliers of expertise)
- Potential competitors to colleges and universities outside the Philippines and non-traditional providers of education
- Complementors are other businesses from

whom customers buy complementary products. In education, this could be as traditional as book publishers to as non-traditional as Internet service providers (ISPs).
- The sixth force is the possibility that higher education can be done in a different way.

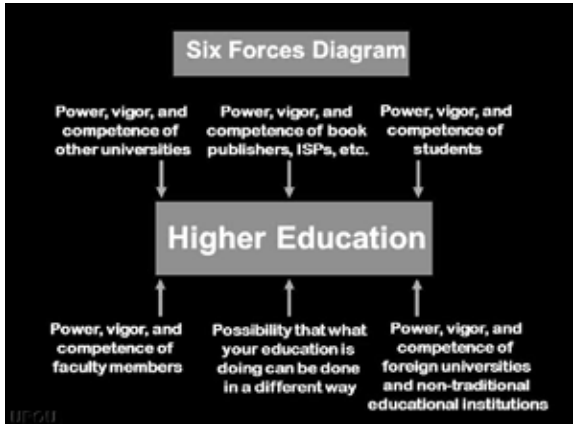


Figure 3. Six forces diagram applied to higher education.

I will use the six-forces model of Grove (1996) to analyze the situation of universities so allow me to further discuss the model while injecting some analogies from physics since we are talking about forces.

The competitive well-being of an enterprise depends upon the interplay of the six forces. A small change in any one of the six forces may be balanced by adjusting one or more of the other forces. But if the change is too large, what Grove (1996) calls a 10x change, then the institution, if it were a ship at sea, would be experiencing a tsunami. How the captain and the crew respond is very critical. The ship will either get to port battered and largely disabled or get to port all the more strengthened by the experience. With a 10x force or forces, an institution goes through an inflection point.

Are there 10x forces impinging on universities today? Where are they coming from?

I suppose we can easily dismiss as less than 10x the changes coming from other colleges and universities. They are busy with their own crisis points. The same can probably be said about our faculty members and staff. But having said that, I would be quick to add that we should not be complacent about these forces because the changes may occur slowly, build up to 10x, and surprise us if we fail to make regular checks on them.

**10x Force: Students, our Customers**

Prof. Richard Tedlow of the Harvard Business School, in his analysis of business failures, reached the conclusion that businesses close shop either because they leave their customers or because their customers leave them (Grove, 1996). I might add that if we also consider potential customers then business is bad if these customers take a look at our display window but pass us up.

Customers of university education are changing in several aspects. Those entering the university as freshmen grew up in a media-rich environment. This is true even in rural areas in the Philippines since the reach of commercial broadcast stations have vastly improved and, in addition, cable connections are widely available. Many of the young are also familiar with computers and all the media made available by computers such as the CD-ROM and the Internet.

Students are changing not only in what they are but also in what they need to be based on the demand of today's and the future workplace. The Conference Board of Canada has put out a list of critical skills needed by the workforce (Bates, 1997):
- Good communication skills (reading/writing/speaking/listening). Some add that these skills should be in more than one language.
- Ability to learn independently. This is also called lifelong learning skills.
- Social skills: ethics, positive attitude, and responsibility
- Teamwork. With the complexity of world concerns, it is necessary for individuals with different expertise to work together. Thus, the importance of group management and participation skills.
- Ability to adjust to changing circumstances
- Thinking skills: problem solving, critical/logical/numerical
- Knowledge navigation: where to get/how to process information

While these skills were listed for a workforce in a developed country, the global context of economies makes these skills worldwide in applicability.

The fast pace of technology changes requires upgrading, retooling, and retraining of the

workforce. Through their own initiative or through the instigation of their employers, workers are looking for more education and training. In the Philippines, postbaccalaureate education is required for advancement in rank, especially in the government.

The requirements of these older-in-years customers of education are quite different from those of the youngsters the universities have traditionally served. Most of them would have their own families—spouse and children—and may not want to be apart from them while studying. They may be very focused in their educational goals thus wanting small and short learning episodes on very specific topics.

More potential customers not only due to population increase but also due to the increase in balik-students from those already working, different skills and interests that they bring in but also different educational goals. Put together, these could constitute a 10x change- among the consumers of education.

**10x Force: Complementors**

Complementers are establishments whose products one depends on (Grove, 1996). The complementer of universities, which I wish to discuss, may not be considered as such by many universities at the present time. But they are important for universities like the UP Open University and I submit that they will be strong complementors of all universities in the very near future. These are the businesses engaged in telecommunication. Like many technology-based industries, these businesses have not only improved their product; they have also brought down the cost of their products.

The power of telecommunications in education arises from its effect on the other forces, especially on the students, on the way universities conduct their business and on bringing about new competitors. One reason for this power is essentially that developments in the telecommunications industry have brought about the "death of distance".

Universities may not be able to depend any longer on their own catchment areas. New communication technologies give power of choice to students. As Kershaw and Safford (1998) put it graphically, "Students are no longer supplicants at the door of the local institutions. As footloose consumers of educational services, they can take their businesses elsewhere if they are not satisfied with the local organization's offering."

By the same token neither would educational institutions be restricted to serving students in their traditional catchment areas. The technology that liberates the consumers also unbinds the service providers.

A liberating force. Definitely 10x.

**10X Force: New Competitors**

Developments in technology bring about new competition. As I mentioned earlier changes in the complementors of the education industry bring about changes in the power, vigor, and competence of potential competitors. These competitors of traditional universities go by various names: open universities, distance education institutions, and the new label for hi-tech open universities, virtual universities. In a recent Commonwealth of Learning study, a virtual education institution is one "which is involved as a direct provider of learning opportunities to students and is using information and communication technologies to deliver its programmes and courses and provide tuition support" (Farrell, 1999).

Virtual education is now being offered not only by those engaged in open and distance learning either on a single mode or dual mode basis but also by traditional institutions that have never been involved in distance education (like the University of Maryland, University of British Columbia). Some of these traditional universities straying into the virtual path are being helped along by business enterprises in the telecommunication industry. These enterprises, of course, are helping make greater use for their products. Good business sense. I have been hearing, for example, of a partnership being forged between Ateneo de Manila University and PLDT. This may be the same as the partnership agreement between University of British Columbia and BCTel to provide improved connectivity for the university and to develop joint educational initiatives that would benefit both partners.

Still another source of virtual education, very nontraditional as an educational institution, are large corporations that have developed training programs for their own employees, the so-called corporate universities. We call them nontraditional but they have been around for some time, numbering 200 in the 1970s, doubling in number in the 1980s and reaching about 1600 in 1997. Nearly 40 percent of the Fortune 500 firms have reorganized their lowly training departments into more centralized, proactive, and strategic corporate universities. Some examples are Motorola, Sears, Walt Disney, and Cisco.

One might say that these do not constitute a threat to universities but we may be misreading their impact since with these in-house "universities", these enterprises will not need to send their workers to conventional universities anymore. Not only that. Being business minded, these corporations, having already invested in developing training materials, are looking at recouping their expenses, if not earning from their investment, by offering the same training to outsiders, for a fee, of course.

Definitely a 10x force, wouldn't you say?

**Navigating an Inflection Point**

Navigating through an inflection point in order to soar to new heights is not unlike having a ship surviving a tempest of 10x winds. It is not a simple matter of just balancing the forces to keep the ship afloat. A better analogy for traversing an inflection would be that of a vehicle moving from deceleration to acceleration. Before the inflection point, the forces are causing business to slow down; after the inflection point, the forces are mustered to make business pick up and boom.

Universities need strong forces, which will not just counteract the 10x forces from new competitors, the customers and complementors. Perhaps a better strategy is to turn these forces around and use them for acceleration rather than deceleration.

And there is yet one force in the six-forces diagram: the force constituted by the possibility that one's business can be done in a different way. Andy Grove (1996) admits that he has found this factor to be the "most deadly of all." This is the force created by superstores in the retail industry, which are doing in the small shops. But I submit that this force is deadly if your competitor wields it against you; but you can take hold of this force, build it up and make it work for you.

It was good to have looked at those forces coming from the universities' customers, complementors, and competitors. It is good to imagine their power and get paranoid. For as Andy Grove (1996) said in his book title, "Only the paranoid survive." Let it be a healthy paranoia that should obsess us to think of ways to turn around the forces from new competitors, the customers, and the complementors and use them for acceleration rather than deceleration and to think of possibilities that higher education can be done in a different way.

**Harnessing a 10 x Force: Wielding Technology**

I am sure you have often heard proclamations about technology revolutionizing education. Revolutionizing in what way? Revolution can mean a winding or turning to return to the same point, or it can mean a drastic change in a condition or method or idea. Technology can do both for education.

Technology returns educators to the same point if we use it merely to automate education under the replicant paradigm of education (Privateer, 1999). We must be wary of modernization schemes, which simply call for putting an Internet-linked computer in every classroom. Simply putting our lecture notes on the world wide web does not constitute a new way of doing things. I once witnessed a class brought to another university using sophisticated satellite transmission. It was old pedagogy delivered with new technology since it was a simple lecture without any attempt at harnessing the capability of the technology for multipoint interactivity. This is not what we mean by harnessing technology to truly revolutionize educa¬tion for significant and meaningful change.

Technology in education must be tasked to do more than simply transfer and access information. It can be used, for example:

- To organize discussion groups not only for teaching content but also for training on organizational skills.

With this goes the challenge of organizing a group of individuals who are physically apart and getting the discussion over cyberspace.

- To arrange for expert consultation.

- To remove from the students the tedium of memorizing facts and instead allow the students to cultivate higher cognitive skills.

- To set up a knowledge laboratory where students can test and apply acquired knowledge in simulated applications.

  An example of this is a course on Fine and Performing Arts offered by the Simon Fraser University. One of the objectives of the course is to explore the possibilities of the computer as a medium for artistic expression through human body representation and to explore alternative approaches to choreography. One student created a dance segment using the software Lifeforms. He described his experience in this creation as follows: "When... I attempt to "control" what my dancer, whom I've named Dan, is doing, he takes off in ways utterly unanticipated by me—his supposed master puppeteer. It is as if he is playing mischievous little tricks of his own. This makes me have to either join the game, or get angry and frustrated. So, I join, I play, I let Dan do his thing also. It isn't so far off the actual choreography experience, where all that pre-rehearsal prep changes when you're there in the studio with your dancers, who have their own bodies, ideas, understandings, inputs, strengths, and weaknesses..."

- And in the process of doing the above, to train students in the use of the technology.

For technology to become a positive 10x force in education, it must be used in more ways than moving information or even knowledge from one point to another. It must be used to create knowledge and train students to create knowledge in the current global context.

**Harnessing a 10x Force: Responding to customers' (students) needs**

Customers' clamor cannot be ignored by any business—even universities. The increase in number of potential students will strain the physical and human resources of a traditional classroom-based university. In addition, the adult learners require greater flexibility in their place and time of study. Open and distance learning systems can address these needs.

But flexibility may also be needed in curriculum design. Most curricula in colleges and universities in the Philippines are highly prescriptive, with fixed set of courses chunked uniformly at three units. A more flexible curricular model would be more fitting for lifelong learners, perhaps a curricular model that can respond to just-in-time, on-demand learning needs. Universities may need to start thinking of curricular offerings consisting of smaller fragments which students can put together depending on their interests, preferences, and requirements.

New teaching models may also have to be instituted. Tony Bates (1997a), Director, Distance Education and Technology, University of British Columbia, suggests several, one of which is resource-based tutoring. The model would suit students who already have a good foundation but are interested in getting accreditation for advanced level of study in a very specific area of study. The learner would be put in touch with an expert who serves as guide to sources of information and pre-prepared learning materials. The tutor-expert helps the student navigate learning resources, puts the student in contact with other experts, and sets and assesses learning tasks such as a project work. More customers and better customer satisfaction is another positive 10x force.

**Harnessing a 10 x Force: Coopting the Competitors**

If you can't beat them, join them! Turn your competitors into strategic partners.

Different types of strategic alliances are emerging among universities and between universities and the private sector. Some universities form consortia or networks to offer cooperative and complementary programs. Examples are the Western Governors University involving 14 states in western US, and the California Virtual University. There are also associations involving intermediaries or brokers that serve as links to participating institutions. There's the American Distance Education Consortium owned and operated by 55 universities, which embody the land-grant mission

in the US. The National Technological University coordinates engineering departments of 35 universities in the US and grants diplomas.

Another type of alliance is that which the Empire State College of the State University of New York has formed with labor groups, such as the United Steelworkers of America, to allow members to takes courses leading to bachelor's degrees while also crediting prior learning gained through military educational training, professional licenses and certificate, and some courses offered through businesses, labor groups, and professional associations.

The alliances I have mentioned provide education and training using leading-edge telecommunications technologies such as interactive video conferencing and the Web. The virtual education they offer is for the privileged who have access to technology.

**Harnessing a 10x Force: Offering suppliers(faculty) good money**

When we discussed the six forces acting on the university we quickly dismissed the faculty and staff saying we do not expect a 10xforce from their sector. But any effort of a university to do things differently especially in instruction requires a major contribution from them. We need faculty and staff effort to help us through the inflection point. We need faculty to be interested in developing innovative curricula and in designing the learning experiences we earlier mentioned. We cannot leave such matters to chance—that there would be some faculty members who just happen to love such work and are willing to learn on their own with no thought of reward, or who have time to do the work besides doing research which, in the present academic environments, bring greater rewards. The reward system in universities would have to change to recognize the development of innovative teaching practices as much as research.

In addition to the pull of incentives, we need to give faculty members the push of appropriate training. If they are to use technology effectively in teaching, they must first understand the learning process and the kind of teaching that aids learning, then understand why it is important to use technology and finally understand the different roles that technology can play in teaching. This grounding in theory is needed as much as the practice in the use of the technology. Otherwise we will see what we saw in the use of even just the overhead projector, the projection of unprocessed lecture notes this time into cyberspace.

**Creating a 10x Force: Another way of doing things**

In his book, Grove (1996) described how the computer industry was transformed as a result of 10X forces such as the introduction of microprocessors and personal computers. Prior to the strategic inflection point, the computer industry was vertically aligned. This means that an old computer company would have its own semiconductor chips, build its own computer around these chips, develop its own operating system, develop its own application software—then the whole package was sold by the company's own sales people (Fig. 4). Propriety was the by-word of the old computer industry (Grove, 1996).

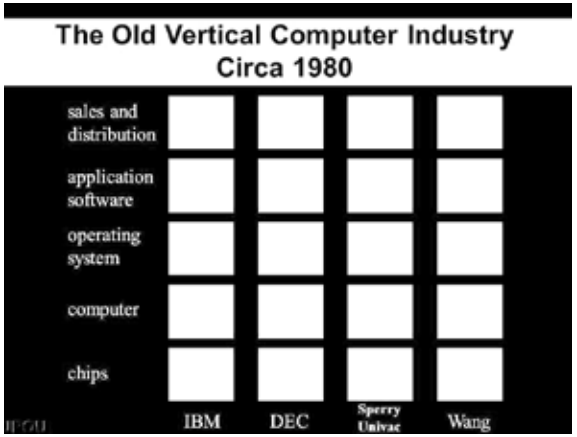



Figure 4. The old vertical computer industry (Grove, 1996).

The entry of microprocessors as the basic building block of computers and the low cost of manufacturing PCs caused a realignment of the industry from a vertical model to a horizontal model where no one company had its own vertical stack. A consumer now can pick a chip of its choice, buy a computer, branded or not, choose an operating system, install the applications desired, and take everything home. The cost of doing this is less than 10 times the cost of buying a working computer before the realignment (Grove, 1996).

As this transformation took place, some companies, like IBM that clung to the vertical orientation experienced difficult times; but

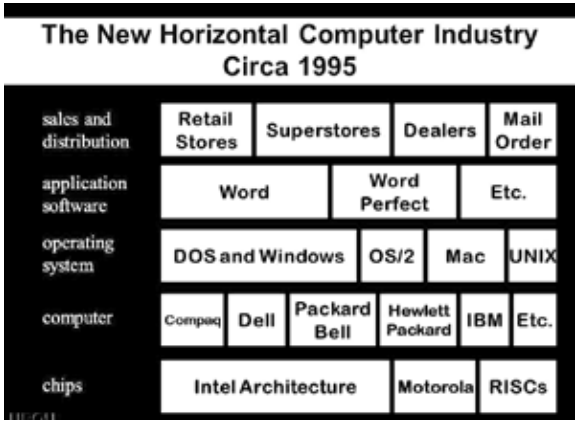



Figure 5. The new horizontal computer industry (Grove, 1996).

Compaq, which entered the picture sometime during the transformation and guessed correctly the shape of things to come, became the fastest Fortune 500 company to reach $1 billion in revenue (Grove, 1996).

I would like to suggest that universities might be making a similar transformation from vertical alignment to horizontal alignment.

Is the education industry moving in this direction? There are signs of what has been referred to as the unbundling of university functions: registration and record-keeping, teaching, provision of student services, and assessment and award granting. One sign is the emergence of enterprises or institutions separately performing these functions. The vertical and horizontal models of higher education are illustrated in Figures 6 and 7.

If indeed the education industry is undergoing structural changes from the vertical to the horizontal industry model, then I would like to quote again from Grove (1996) who stressed one important lesson that hits right here (In the heart): "when a strategic inflection point sweeps through the industry, the more successful a participant was in the old industry structure, the more threatened it is by change and the more reluctant it is to adapt it." *Bato-bato sa langit?*

**Concluding Remarks**

You may be wondering why I used a business model in my analysis of the present state of universities. I chanced on Grove's book while writing this paper and found many interesting parallelisms in the description of a business enterprise with a university. It is a view that must be shared by many people, industry executives and university leaders alike, because in April of this year, 43 companies launched the so-called

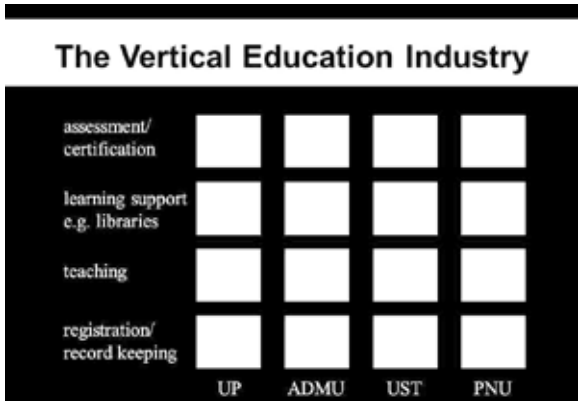



Figure 6. The Vertical Higher Education Industry

World Education Market touted to be "all about the international business of education" which is estimated to reach $90 billion in 2002.

I also believe that understanding the business of education will help us prevent the commercialization of education in the negative sense of making it profit oriented but instead help along the commercialization of education in the positive sense of making it a viable enterprise that can support and sustain the scholarship of discovery, research, and application in the present milieu of changing student demands, global competitiveness as well as cooperation, and ubiquity of information and communication technologies which have sounded the death of distance.

The purpose of my talk has really been to heighten our (we in the academe) paranoia and perhaps jolt us from any complacency in our present attitude about our university. It is easy for a university

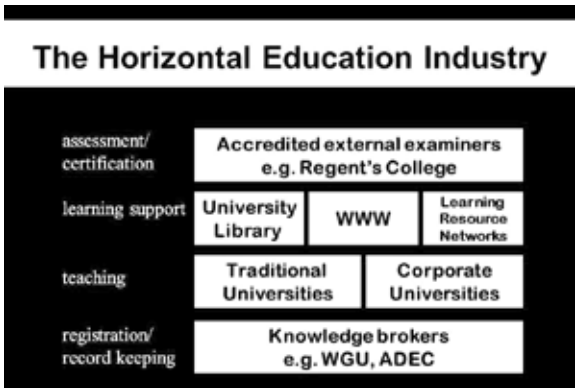
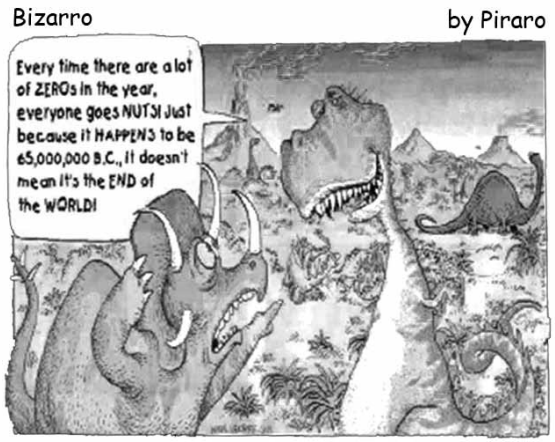



Figure 7. The Horizontal Higher Education Industry

like UP to become complacent because we take in such intelligent students who will most likely learn whatever we do and who will then go on to succeed in their careers. We will then claim them as our alumni and declare that we made all the difference.

I submit that if we are complacent, we do not do justice to the intelligence coupled with enthusiasm that our students bring with them when they enter our university. I like the analogy of the inflection point because I like the climb to greatness if we manage to get past the inflection point. We can't just coast along. We would be doing our students terrible injustice if we take them for that kind of ride. They deserve better. Our country deserves better.

The turn of the millennium is at hand. The frenzy is very palpable and not just because of the Y2Kbug. It's the zeroes in the New Year as Rex in the cartoon says. But it is more than the zeroes because there truly are powerful forces like the ball of fire the other dinosaur in the cartoon is getting agitated about. The dinosaurs did not survive. Let's make those zeroes in the year 2000 serve as markers of the order of magnitude of the forces bearing down on our university enterprise. Then we might get paranoid enough to survive - to manage inflection points and soar to greater heights.





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## Constructivism in the 21st Century "Classroom"

22 May 2000

The millennium mania is on the wane. The frenzy, heightened by the millennium bug, has petered out. In retrospect, the hoopla may just have been driven by commercial ends.

Nonetheless, it is appropriate to talk about this new millennium because this is the age in which we live. And if we are concerned with education, we need to understand the context in which our learners are operating.

As a teacher, I have been fascinated by theories of learning—ideas and models that speak about the process of knowing and how learning takes place in an individual. I suppose this fascination is brought about by the circumstance that I was a scientist before I became a teacher, like many of those in this hall. As scientists, we act based on theories. So I carried this perspective from the laboratory to the classroom. Come to think of it, perhaps we ought to consider the classroom as another kind of laboratory. Thus, I approach teaching not as an alchemist who would aspire to change my students into something they can never be, given the processes I use in the classroom, but as a chemist (a scientist) with a validated theory about how students change and what I can do as a teacher to effect such change.

A theory about learning and knowledge that has fascinated me, and which I have used as basis for the experiments I do in my laboratory classroom, is the constructivist theory. Although an old theory, it needs reexamination in the context of today. So I wish to invite you to join me in the assessment of the relevance of constructivism in the 21st century classroom.

My plan is for us to take a look at the situation of education today, especially at the forces impinging on education and the challenges these forces bring about either to teachers, learners, or educational institutions. We shall then take a brief review of the principles of constructivism and, finally, we shall venture into determining the message of constructivism to today's educators and educational institutions.

Academic institutions and the field of education, in general, have not been exempt from winds of change. Talks of paradigm shifts in education have been going on through the last decade of the previous millennium. These talks are not mere reaction to the new millennium craze. The forces impinging on education are real and significant. Some of these forces are not new, but they have been building up over the years. The confluence of these factors may be such that a new view about education may be emerging.

A force that has not abetted for many decades now is the explosion of information. In our field of chemistry, for example, Chemical Abstracts in 1986 consisted of 237,223 entries; a decade after, in 1997, this number doubled. It is said that the half-life of an engineer's knowledge today is five years. In computer science, it is certainly much shorter. Four or five years of undergraduate studies are not

sufficient to master all the information in an area of study. Tony Bates (1995), in his book "Technology, Open Learning and Distance Education," predicted that after formal schooling, individuals would need to be retrained at least five times during their working life. And this is probably true whether the individual is working for a promotion or just hanging on to a job.

But it is not just the volume of information that is critical, but also the value that has been accorded to information and knowledge. Peter Drucker (1968), prominent futurist, economist and prolific writer, predicted three decades ago, in his book "The Age of Discontinuity," that one of the critical forces that will mold and shape our future is knowledge. In his newer book "Managing for the Future," Drucker (1992) wrote "The world is becoming not labor intensive, not materials intensive, not energy intensive, but knowledge intensive." There was a time when men of knowledge were used by kings merely as court jesters. The pursuit of knowledge was then a luxury permitted of the wealthy and the privileged. But in this decade, information and knowledge have become powerful weapons that win wars not just in battlefields, as we saw in the Gulf War, but also in boardrooms. As President Charles M. Vest of the Massachusetts Institute of Technology said, "We are entering an era in which knowledge and the people skilled in its use are the coins of the realm. In such times, we will succeed by our wits rather than by our power and human resources."

The force of knowledge has also given rise to another force causing change in the education scene—the new world of work. James Martin (1996), in his book "Cybercorp" (1996), defined this new business revolution as "a corporation designed using the principles of cybernetics... designed for fast change, which can learn, evolve, and transform itself rapidly." Such an organization feeds on knowledge and "needs a knowledge infrastructure to capture and create knowledge, store it, improve it, clarify it, disseminate it to all employees, and put it to use." The workers, therefore, in a cybercorporation must be knowledge workers, required to be constantly learning, to be familiar with information sources, and to be capable of retooling and retraining. An institution to be competitive cannot afford to have its workers move comfortably on a plateau of knowledge; it must constantly challenge its workers to climb steep learning curves.

The changing face of the workplace also means a changing profile of the students, which an educational institution might expect. With workers needing constant retraining, knowledge seekers will no longer be confined to those 20 years or below. There is a new student group that consists of older individuals. Because they are more mature, they are expected to be more demanding; they would have a good idea of what kind of education they want. And because they are at that age where they would most likely have their own families, they would be looking for a way to retrain or go back to school without disrupting their family life. Another factor which contributes to a greater demand from adults for more education is longer life expectancy. This keeps individuals in the workplace longer.

All the factors I mentioned give rise to a phenomenon that may have been a privilege or mere option to some people years ago, but which is now considered a requirement not only to stay employed or to continue to be a productive citizen but to continue to have a fulfilled life. I refer to lifelong learning.

A further consequence of the factors I have mentioned is the increase in student numbers. We have to address not just the traditional student, ages up to 21 or a bit older for those who take graduate education; we also have to be concerned with adult learners. And we have not even factored in the effect of simple increase in population. According to Sir John Daniels, Vice Chancellor of the UK Open University, the rise in global population alone will require putting up one large university every week just to keep up with the present levels of demand. Add to this the demand for lifelong learning among adults and the demand from population groups previously marginalized due to poverty or geographic and cultural isolation and you have a mega-crisis confronting education.

It is not just the number of learners that educational institutions have to worry about. There are also the questions on the nature of the learner and the kind of education present-day learners need.

Those of us who have been taught for more than 20 years will tell you that students have changed. Some of us will say that Filipino students seem to be less inclined to read. But we should ask ourselves the question, "Do we in our teaching

cultivate the habit of reading?" Most of our students do not have their own textbooks and the ratio of books in the library to the number of students is embarrassingly low. Some of us will also say that Filipino learners, with their exposure to comics and television, will not learn well from text alone. Will they learn better from the tube? Dr. Josefina Natividad, our own Vice Chancellor for Academic Affairs, reports that her son, when asked to evaluate a tele-lesson, said that he does not like learning from television because the television is meant for entertainment.

As agents of change, educational institutions must be cognizant of the change desired in their students or what they aim for them to become. We have to prepare our students to be productive citizens of this emerging global society. One of the skills frequently mentioned as vital is effective communication, preferably in more than one language. Businessmen in the Philippines would say that one of those languages should be English.

Because information and knowledge are the prime commodities in the global society, students must learn where and how to retrieve information and how to process data and information and transform these into knowledge. Students must also learn to decide what knowledge to absorb and what to ignore. They must learn how to gather data, to formulate hypotheses, and to test and refine them into theories or junk them altogether. They must be able to think critically and to analyze and synthesize. We certainly do not want to produce information junkies who just gather data, cruise the Internet for hours, and download reams of data. TS Eliot made this point 60 years ago, long before the time of information highways, in his play "The Rock:"

> *Where is the wisdom we have lost in knowledge,*
> *Where is the knowledge we have lost in information?*

Another important skill that citizens of our global village must have is the ability to learn independently. Individuals will increasingly be expected to take responsibility for and manage their own learning. They will increasingly need to learn outside the four walls of a classroom, and learn less from traditional teachers, but more from materials and other individuals. They may also do self-assessment, determining for themselves, based on their needs and to their own satisfaction, if they learned enough and well. All these indicate that the learner will be expected to be highly motivated, but more by an internal drive than by a teacher swinging a stick behind them or dangling a carrot in front of them.

A trait often mentioned as desirable in today's world and the future is the ability to work with a team. Issues and concerns are increasingly becoming more complex, requiring inputs from persons with varied expertise. Sometimes it is not even just a case of scientists from different fields needing to work together, but scientists having to work with sociologists, anthropologists, artists, and politicians even. A team player is required not just in the hard court, but also in the workplace where concerns are multidisciplinary and often multicultural. Other personal traits mentioned as desirable are principled or ethical, positive attitudes; keen sense of responsibility for self, nation, others, and the world; and openmindedness in the face of differences in values, culture, opinion, and of course, color and creed.

Indeed, there is so much expected of present-day educational institutions. Paradoxically, governments are not providing corresponding increase in funding. There is a decline in public investment in education. The responsibility for higher education is being shifted to the individual. Our government is adopting this stand. Government is now saying that they will take care of basic education and will give fewer subsidies to higher education. State universities and colleges, especially UP, are being asked to have students, especially those belonging to the higher income brackets, to pay the full cost of their higher education. This would mean increasing tuition to the levels of Ateneode Manila University and De La Salle University. Diane Laurillard (1993) in her book "Rethinking University Teaching" writes that the "pressure is for is for financial input to go down and some measurable output to go up."

Perhaps the most potent force for change in education today is technology, specifically the developments in information and communication technology, where products are improving at a fast pace even as costs are going down. These developments have allowed for cheaper, faster, and more effective communication and information processing. These developments pose a challenge to education, but also propose

a means of coping with other challenges. Technology is a multi-edged sword that challenges its wielder.

A question that should always be at the back of our minds as educators as we increasingly use IT in our classes is this: "Will IT change the way individual learn?" Media theorists suggest that "media are not simply channels for conveying information between two or more environments, but are themselves shapers of new environments." IT directly inputs on the acquisition, organization, processing, and transmission of information and these are activities that are part of the learning process. In fact, we must revise our question; we should not ask if IT will change the way individuals learn, but rather *how* IT will change the way individuals learn.

What do all these mean in view of what goes on in our classrooms? Frazer and Maskill listed several factors that affect the selection of a teaching strategy or style: (1) tradition, intuition and experience; (2) non-educational factors (e.g., costs, convenience, availability of equipment); (3) objectives of our courses and of our institutions; (4) the students and their abilities, personalities and aspirations; (5)results of research into the efficacy of a particular strategy; and (6) theories of learning.

In the practice of science we use theories to design experiments and predict outcomes. It should be no different in the field of education. We shall now focus on the particular theory of learning that has spurred a tremendous amount of research, one that has been claimed to offer a new paradigm

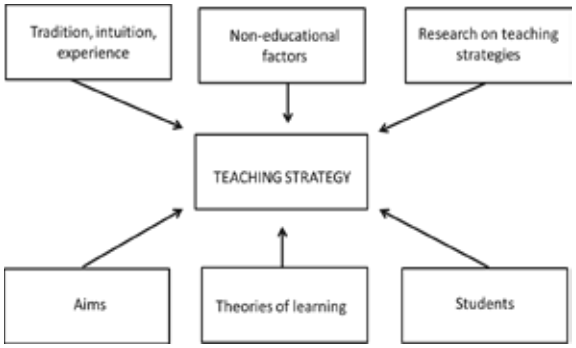


Figure 1. Factors affecting the selection of teaching strategy

for science education and one that has acquired a status of a meta-theory or "grand theory."

Constructivism is about the construction of understanding. As a theory of learning its main proposition is that "we construct our own understanding of the world in which we live." Nobody can do so for us. We, teachers, cannot do it for our students. Each of us must make sense of our world.

Jack Lockhead succinctly defined constructivism as follows:

> *Knowledge is not an entity which can be simply transferred from those who have to those who don't... Knowledge is something which each individual learner must construct for and by himself. This view of knowledge as an individual construction... is usually referred to as constructivism.*

Donald M. Blais was more direct and emphatic when he wrote that "Constructivism... does not say that knowledge is something that learners *ought to* construct for and by themselves. Rather, it says that knowledge is something that learners *must* construct for and by themselves. There is no alternative. Discovery, reinvention or active reconstruction is necessary."

Based on those general concepts of constructivism, we get the idea that according to this learning theory the learner has to take a major responsibility over the learning process in addition to having a major role in making learning happen.

This theory certainly addresses one of the major challenges to education in our day and that is the challenge of lifelong learning. Lifelong learning is no longer an option in our society; it is a must. Individuals must carry through their lives the motivation and the ability to learn. Since they cannot be in classrooms all their lives, they must learn to learn on their own. They must be self-motivated and become independent learners.

What better theory, therefore, to guide us in our decision on what teaching strategy to use in our classes than a learning theory that says that learners must construct their own understanding. If we use constructivism as basis then we would be designing strategies that will hone the skills of our students in making their own constructions of understanding. We would, therefore, be preparing them for a lifetime of learning.

In the earlier part of this paper, we stated that one of the skills required of citizens in this global village that we live in is effective communication.

This, too, is addressed directly by constructivism since one of its operating principles is for the teacher to seek and value students' points of view and this means encouraging students to talk about their ideas and to listen to those of others. Their communication skills are developed in a constructivist classroom.

Making students talk about their ideas has, in fact, generated a big body of research about what is referred by some as "children's ideas," others as "students' misconceptions," and still others as "alternative views." Probing students' ideas not only benefits the students by the practice they get in articulating their ideas, but also benefits the teacher by uncovering the ideas students hold—ideas that may be different from scientists' conceptions. If you have not tried doing this in your classroom, you ought to. Find out your students ideas about dissolving (they might tell you that when coffer sulfate dissolves, the blue color comes out of the crystal), or about states of matter (don't be surprised if they say that the condensation on the outside of a bottle of cold water is water coming out of the walls of the bottle), or about burning (they might say that things that burn get lighter), or about rusting (that rust is a breakdown of iron and rust eats the nail like acid eats up metal).

Constructivist teaching practices that enhance students' communication skills are as follows:

- Ask students for their ideas about concepts before sharing your understanding of those concepts.
- Encourage students to engage in dialogue, both with the teacher and with one another.
- Seek elaboration of students' initial responses.
- Pose contradictions to students' initial hypotheses and then encourage a response.
- Encourage student inquiry by asking thoughtful, open-ended questions and encouraging students to ask questions of others.
- Encourage students to reflect on experiences and actions and then predict future outcomes.

We must take note that these practices that enhance communication skills also stimulate analytical and critical thinking among students.

Let us now go back to the challenge of technology in the classroom of today and how this relates to the principles of constructivism.

There is a type of "classroom" that is emerging from developments in information and communication technology. These technologies are knocking down the walls of today's classrooms. Using computer-mediated communication (CMC) networks, learning environments are created "whereby teachers and learners in different locations work together to build their understanding and skills related to a particular subject matter." Teaching and learning takes place not in a walled in classroom, physically defined, or a geographically located space but in cyberspace using CMC networks that connect people all over the world.

Learning in these classrooms goes by many names: online learning, e-learning, web-based learning, and so on. Many traditional universities all over the world, including well-known prestigious universities, are developing and offering online courses. Massachusetts Institute of Technology (MIT) has teamed up with Microsoft to develop what they call the I-Campus. The Wharton School of the University of Pennsylvania is co-developing online business courses with Pensare, a California-based knowledge-management software company.

Hearing computer geeks describe these classrooms using language based on a traditional school environment can be disorienting. They talk about bulletin boards which like the good old bulletin boards we know are used for posting notices. They talk about discussion rooms where students and teachers toss around ideas. I was just talking last week to a Hewlett-Packard Education Division personnel and he was describing their virtual classroom where the students can raise their hands to ask a question, except that what the teacher sees is simply a blinking hand icon on the computer screen.

A survey was made at Simon Fraser University asking students and learners who are in this type of classroom how different this classroom is compared to the traditional classroom and these were their comments:

- The role of the teacher changes to that of facilitator and mentor.
- Students become active participants; discussions become more detailed and deeper.

- Access to resources is expanded significantly.
- Learners become more independent.
- Access to teachers becomes equal and direct.
- Interactions among teachers are increased significantly.
- Education becomes learner-centered; learning becomes self-paced.
- Learning opportunities for all students are more equal; learner-learner group interactions are significantly increased.
- Personal communication among participants is increased.
- Teaching and learning is collaborative.
- There is more time to reflect on ideas; students can explore on the networks; exchange of ideas and thoughts is expanded; the classroom becomes global.
- The teacher-learner hierarchy is broken down. Teachers become learners, and learners become teachers.

If you still recall the teaching practices in a constructivist classroom which I listed earlier, you would note how closely the conditions in a cyberclass match them. A concern about computer-based learning that was initially made by educators is that students would become dumb and anti-social because they would just be sitting in front of a computer, isolated from the rest of the world. On the contrary, with computer networks, communication with fellow learners is enhanced. As a matter of fact, a cyberclass encourages, nay, requires active participation. "Present" in a traditional classroom may simply mean physical presence, but in a cyberclass "present" means the student must put in comments in an ongoing discussion.

I am happy that constructivism addresses some of the challenges faced by educators today and that the use of computer-mediated communication networks in our classes enhances the practices recommended for constructivist classrooms. The tools in the 21st century classroom may be new and there are new demands made of students and teachers, but the premise that individuals must construct their own understanding of the world continues to be valid. More than ever, we must foster among our students the desire and the capability to learn independently and thus, prepare them for a world where learning is a way of life.


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## A Commitment to Excellence and Service

26 August 2000

Last year, in my message to the graduates, I told them a fairy tale based on a *kuwentong* e-mail (story forwarded via e-mail). This time, I shall relate a true story told by Jacob Bronowski, philosopher, mathematician, physicist, poet, playwright, a man of diverse interests and talents, in his essay entitled "A Moral for an Age of Plenty."

The story is about Louis Alexander Slotin, a physicist who was involved in experiments on the making of atomic bombs. He was concerned with the assembly of pieces of plutonium, each of which individually would be too small to be dangerous, but if bought together, would sustain a chain reaction and form an explosive mass—an atomic bomb.

One fateful day, on 12 May 1946, Slotin was conducting an experiment that involved nudging tiny pieces of plutonium toward one another. He was doing this with a screwdriver, but the screwdriver slipped and several pieces of plutonium came too close to each other. Immediately, the instruments in the room went haywire, indicating that a chain reaction has been initiated. Radioactivity in the room was quickly increasing to dangerous levels.

Just as quickly, Slotin moved to pull the pieces of plutonium apart with his bare unprotected hands. Slotin acted in full knowledge of the consequences of his action—that the chain reaction would be arrested but that he would be exposed to a tremendous amount of radioactivity and he would die. He asked his co-workers to mark their precise positionsin order that the degree of their exposure to radioactivity could be determined. Then he apologized to them. Slotin was correct on all counts. Nine days after the incident, he died; his co-workers survived.

Bronowski said that he tells the story to underscore that morality consists of two things. One is knowledge and the other "the sense that other people matter: the sense of common loyalty, of charity and tenderness, the sense of human love."

*Ang moralidad ay may dalawang bahagi. Ang isa ay kaalaman. At ang pangalawa ay ang pagpapahalaga sa ibang tao.*

(Morality has two parts. One is knowledge and the other is the sense that other people matter.)

I retell this story to voice our hope that the diploma you received today is a certification not just of the knowledge you have gained in your studies at the University of the Philippines, but also of some values which we hope you have also imbibed during your studies.

There are at least two values that we hope your studies in UP have instilled in you. The first is EXCELLENCE, a tradition long revered and upheld in this university, one to which this administration of President Francisco Nemenzo, Jr. is committed. Doing your best and not simply getting by is part of excellence. Not being content with "*Puede*

*na*" but pushing to the limits your best efforts according to your best lights.

The second value we hope you will live by is SERVICE. Only a few, like Slotin in Bronowski's story, are given the opportunity of the ultimate in the service of one's fellow humans, that is, to be a martyr, to die that others may live. All of us, however, are given opportunities of service. But opportunities are instances that involve choices. We hope you will make choices that go beyond your self-interests. In book two of the Harry Potter series that has become an international bestseller with a readership among both children and adults, the headmaster of the school for wizards where Harry Potter, the hero in the series goes to, says to him, "It is our choices, Harry, that show what we truly are, far more than our abilities."

*Ang ating mga itinatangi at pinipili ang nagpapakita ng ating pagkatao, higit sa ating kakayahan.*

(The choices we make speak of the kind of person we truly are, more than our abilities.)

We hope that with your graduation from UP you will choose to make a commitment to use the knowledge you have gained in the service of our people and our country and always to give of your best.



## Science: Recent Issues, Enduring Values

4 July 2001

Two hundred years ago, a distinction was made between substances and materials derived from living or once-living things (they were called organic) and those from non-living things (they were referred to as inorganic). Chemistry was an infant science then. At that time, it was also believed that within the living bodies of plants and animals there is a vital force that gave rise to the sugars, starches, proteins, fats, and other complex substances in these bodies. There was no way that these organic substances could be made (in a test tube, so to speak) outside the influence of this vital force. "Nothing but the texture of living vegetables, nothing but their vegetating organs, could form the matter extracted from them, and no instrument invented by art could imitate the compositions which are found in the organic machines of plants."

Vitalism is considered to have been debunked when, in 1828, Friedrich Wohler synthesized urea from ammonium cyanide, a mineral, "without requiring a kidney of an animal, human or dog." His work was inspired by the French chemist Chevreul who said, "To regard the distinction (referring to organic and inorganic) as absolute and invariable would be contrary to the spirit of science." The synthesis of many other organic compounds outside a living body, without the so-called vital force followed and by around 1850, vitalism was a dead theory.

Or so we thought.

Scientists do continue to use the terms organic and inorganic though only in the context of making a systematic study of the compounds of carbon, which is indeed a very unique element forming millions of different compounds.

Thus, there is a field of organic chemistry. However, it is recognized and held as immutable in the scientific world that atoms follow only one set of rules for chemical combination inside or outside a living organism.

Nevertheless, the notion of organic substances and natural materials having special attributes is very much alive, hence the growing industry of organic products and organic agriculture. Hence also the campaign against things considered as resulting from tampering with nature—the genetically modified organisms or GMOs and products derived thereof. Hence also the new "call of the wild" from people wanting a return to the "Arcadian vision of nature as a place of towering ancient woods, wild beasts, and timeless hills, a place where man may enter only as an intruder, observer or worshiper."

I am very pleased that this conference decided to devote some time to issues in science that educators should be concerned about. Whether you are teaching humanities subjects, social science or the sciences, these issues are important because they have implications to life and living, to being alive and to being. Thank you for this invitation to speak before you.

These issues require greater understanding, even just basic scientific literacy and awareness, among people so that they can participate in informed discussion and make informed decisions as citizens, consumers or policymakers.

A growing movement, if not a well-entrenched one, is that for organic food and organic farming. In the United States (US), the retail sales of organic foods in 1999 was approximately $6 billion. In the United Kingdom (UK), the rate of demand for organic food is growing by 40 percent per year and a campaign is ongoing to increase agricultural land used in organic farming from the present 1.5 percent to 30 percent.

Being a chemist where the term "organic" has a particular meaning, my reaction when I heard about organic food was raised eyebrows. In my mind I asked, "Is there food that is not organic?" But part of being a scientist is being open-minded so I decided to know more about this growing movement for organic food and organic farming.

Organic farming is claimed as a sustainable farming system that produces healthy crops and livestock without damage to the environment. This goal is achieved by avoiding the use of artificial chemical fertilizers and pesticides. I suppose artificial here means synthetic because the recommended fertilizer is manure, the nitrogen requirement is provided through leguminous crops introduced by crop rotation, and the soil vitality is maintained by the use of microorganisms and earthworms. The so-called artificial pesticides are replaced by various beneficial insects and other wildlife to act as natural predators for crop pests. Animals in organic farms are reared without the routine use of drugs, antibiotics, and dewormers. Organic farmers claim they produce better tasting food and that their system is more environment-friendly.

What bothers me about organic food and organic farming is that the main proponents have appropriated the term "organic" and turned it into almost like a brand name for which you can get a franchise. In fact, the term "organic" has been assigned a definition by law. In the UK products labeled as "organic" must be certified by a government-approved body as conforming to the Standards for Organic Food and Farming. Similarly, the US has enacted the national organic standards rule establishing uniform natural standards for the production, handling, and processing of organically grown agricultural products. In the UK, there are organizations that issue the certification, for a fee, of course. The Soil Association is the biggest such organization accounting for 70 percent of the overall certified organic products. It issues the licenses after its inspectors checked that regulations and standards are being followed. A minimum of two years of compliance is required before the organic certification is issued.

I suppose my concern to the attribution of a legal definition to the term "organic" is that science cannot be legislated. Science does not operate by the laws enacted by people. Validation of claims is not done in courts of law but in laboratory benches.

Thus, the proponents of organic farming must substantiate their claims with scientific studies. Some reports I obtained from available literature are as follows:

- There is generally substantially greater levels of both abundance and diversity of species in organic farms. For example they find five timesas many wild plants in arable fields, 57 percent more species and several rare and declining wild arable species in organic farms. They also found three times as many non-pest butterflies and five times as many spider numbers, and one to two times as many spider species.

- On the other hand, frequent mechanical weeding practiced by organic farmers as an alternative to herbicides damages nesting birds, worms, and invertebrates.

- Hundreds of various tests have failed to reveal better-tasting properties or improved nutritional values, but have constantly shown that organic produce has lower nitrate and protein content.

- The Soil Association themselves admit that after 30 years of research they failed to establish the superiority of any of three types of farming systems: one that uses new intensive techniques, one farmed traditionally, and one using a mixed system.

- The United Kingdom Institute of Food Science and Technology stated in 1999 that" Organic

food can never be defined as pesticide free" although it is certain that they have lower pesticide levels.

There are many other claims and counter claims but it is indisputable that organic produce is more expensive and organic farming is less productive. I suppose in countries like the UK, where there is a surplus of food, they can afford to convert a good percentage of their farm lands to organic agriculture. But it is still worrisome that organic produce is more expensive so that even in countries like UK only the well-to-do can afford organic produce. If indeed this is superior, then it means that the UK really has effectively legislated that the poor people will only eat inferior farm products. These are issues that are no longer of concern to scientists, but government policymakers must be well-informed so that the legislation that they pass is informed by science not simply inspired by the soul and certainly not instigated by organizations out for profit.

The view that organic food is superior is akin to the belief that anything natural is good. This is a belief in nature's inherent perfection, that nature knows best how to manage itself and is best left alone.

One cannot doubt the wisdom of such belief when one travels to the Ilocos region—the northern part of Luzon, the biggest island in the Philippine archipelago, and see how humans have ravaged the mountains for firewood to support the tobacco industry. One indeed may be inclined to agree to a policy for humans to leave the mountains alone for a long time.

In Japan, there are reports of monkeys causing millions of dollars' worth of damages to agricultural produce. Animal protection organizations claim that 10,000 monkeys are being exterminated annually and they allege that if this continues, the monkeys would soon be extinct in some regions in Japan. Monkeys are part of nature. Shouldn't they be left alone?

Some indeed may argue that leaving nature alone is the best guarantee for the sustenance of nature and for biodiversity.

Biodiversity, short for biological diversity, refers to the variety and variability among living things and their relationships to each other as well as the variety and variability of the ecological systems in which the organisms occur. Biodiversity encompasses three levels. One is genetic diversity, which refers to the large amount of genetic information and the different combinations of genes within organisms as well as different variants of the same gene. The next level refers to the variety of different species on earth estimated to be between five and 50 million or more. The third level is the diversity in ecosystems, which refers to the variety of habitats, biotic communities, and ecological processes in the biosphere as well as the variety within ecosystems.

Why do we need biodiversity? Why can't we just select the most useful of all plant and animal species and allow only those to thrive and just maintain the rest in zoos, safari parks, botanical gardens, and arboretums? Didn't Hitler have a point in dreaming of a world populated only by the superior Aryan race? Were we objecting to his actions only because we aren't of that race? North of San Francisco is a swamp protected by law from destruction because every year there is a migratory bird that uses the swamp as a rest area on its way to its summer or winter home. Isn't that just going too far?

Most of us do not fully appreciate the need for and our dependence on biodiversity. Perhaps in the Philippines we just know we have to prevent the tarsier or the monkey-eating eagle from becoming extinct because they are tourist attractions. Some of us may just be responding to the "romantic yearning" of our soul, especially as we read Henry David Thoreau say that "in wilderness is the preservation of the world."

But we must set aside much of the sentimentalism to be true to our cause of educating the public. There are hard realities that our students must know and understand. For example, the green revolution of the 1960s, which vastly increased yields of corn, wheat, rice and other crops and has tremendously helped in putting food on the table for large members of peoples, relied in part on biodiversity. The availability of diverse strains of cereal grains allowed breeders to come up with high-yielding and pest-resistant varieties.

Another example is the importance of the variety of plants in our search for medicine. Four out of every five of the top 150 prescription drugs in the US have their origins in natural compounds extracted from various plant parts. A common example is aspirin first obtained from the bark of

willow trees. Although the aspirin we now buy in the drugstores is most likely synthesized in a laboratory, it cannot be denied that nature first showed its usefulness to us. Plants produce such a wide variety of compounds and scientists continue to explore this variety for potential sources of medicine.

We also need to think of ecosystem services provided by the mix of natural biological processes that either improve the overall quality of the environment or provide some benefit to the human users of the landscape. An example of an ecosystem service is the purification of water accomplished by the flow of water through forested ecosystems and wetlands. Another is the regulation of stream flow by vegetation in the upper reaches of watersheds to help control erosion, sedimentation, and floods. Often required in the provision and maintenance of ecosystem services is a diversity of habitats over an entire landscape. Diversity is considered as "a form of ecosystem health insurance" because diverse ecosystems are more resistant to and recover faster from environmental stress and disturbances.

Our students also need to understand the complex web of factors that affect biodiversity. Four factors were identified in the Global Biodiversity Assessment of the United Nations Environment Program. One is land use which, in turn, depends on population growth and the demands of early stages of economic development. Deforestation in the humid tropics is the best known current example of rapid land-use change. In the Philippines, between 1948 and 1987, it is estimated that the forest cover decreased from about 50 percent to about 23 percent—a cut by half in a span of 40 years of what took centuries to develop. This loss of plant cover coincides with the doubling of areas devoted to agriculture and the expansion of urban areas.

Another factor that greatly contributes to loss of biodiversity is overexploitation. Again, one of the best examples are found in the tropics with the rapid loss of tropical hardwoods due to high commercial demand that cannot be compensated for due to low rates of successful replacement and long periods required for new growth. Natural biodiversity of marine fisheries have also been greatly reduced. Some of the overexploitation can be traced to the need to provide for basic human needs, but many cases can be traced to mere satisfaction of human whims like the collection of exotic species of flora and fauna.

Introductions and invasions of alien species of plants also present threats to biodiversity. The Nile perch was introduced in Lake Victoria in 1960 to benefit commercial fishing. In less than 30 years, 30 species native to the lake have succumbed to the healthy appetite of the Nile perch for smaller fish.

Just as destructive to biodiversity is the introduction of pollutants and toxic substances in the environment. For example, industrial wastes may contain heavy metals like copper, mercury, and cadmium which inhibit growth of most plants.

The concern about the loss of biodiversity is a valid one. However, we must bear in mind that evolution is a continuing process and that "survival of the fittest" in any ecosystem is still the rule.

The controversy about biodiversity is not so much in its preservation, but in the extent of its preservation, the lengths we should go and the methods we should use. Is a policy of preservation through non-interference what we need? Is it wise to pursue a "vision of nature as primitive wilderness of ancient, towering woods teeming with wildlife, unchanging, eternal, self-perpetuating shaped only by forces beyond man's control or ken?" One ecologist refers to this as "good poetry but bad science." For indeed in some cases non-interference with the so-called "balance of nature" has, in fact, resulted in the near wipe out of endangered woodland plants.

Non-interference with nature is also the stand of those who oppose the introduction of food products from GMOs. This is another burning issue that should be of major concern to developing countries like the Philippines. We cannot allow our students to get their information about this only from newspaper reports. Those of you who have experienced yourself or your work being written about know that what comes out in the newspapers are seldom accurate. Our students must hear about GMOs from their teachers. The assumption here is that our teachers are well-informed.

The most common GM crops grown worldwide are soybean, corn, cotton, and canola. In 1994, the US allowed the first GM food, the slow softening tomato, to be planted for the sale of its fruits.

Today, the land devoted to GM crops cover more than 40 million hectares, an area one and one-third the size of the Philippines. The US (68%) takes the lead in GM crop production, followed by Argentina (23%), Canada (7%), and China (1%). Most of the GM crops have been bred either for herbicide tolerance or insect resistance or both. The insect resistant varieties make their own insecticide and this trait was specifically sought to reduce the need for chemical sprays. The herbicide tolerant varieties, on the other hand, survive when exposed to broad spectrum weed killers, thus making unnecessary the use of more noxious chemicals to control weeds. The effects of planting these GM crops cascade to simpler farm operations and increased yields.

Insect-protected GM plants are typically engineered to carry a gene from the bacterium *Bacillus thuringensis* (Bt). This gene is responsible for directing cells to produce a protein toxic to some insects. This gene is isolated from the bacterium and inserted into plant cells along with a marker gene to identify which cells have taken up the Bt gene. These cells that now contain the newly inserted genes are allowed to grow into plants by tissue culture. The resulting plants produce the Bt toxin in their cells and thus have built-in protection from insects.

Reduction in use of insecticides has indeed been dramatic, especially for Bt cotton. In the US, as much as 21 percent reduction in pesticide use was reported by states planting large tracts of land with Bt cotton. In a recent field test, farmers in General Santos City in Mindanao saw this dramatic reduction in insect infestation in a field test of Bt corn and at harvest time they were clamoring to get seeds for planting. They could not be given seeds, however, because this was just a field test and under Philippine biosafety regulations, seeds from tests cannot be given away and, in fact, must be destroyed. The yield benefits of Bt corn is also significant, varying from five to 15 percent increase. Increase in yield, advocates argue, impact also on land use (since there is less need for conversion of land to agricultural use) and in fertilizer use.

Certainly, big agribusiness companies stand to profit from the sale of planting materials for GM crops. On the other hand, a developing country like the Philippines, with its increasing population, need to explore ways of improving the productivity of its agricultural land—land that is decreasing because of urbanization and increasing conversion to industrial uses.

Skeptics, on the other hand, contend that GM crops pose risks to the environment and health. They are concerned that innocent creatures like the monarch butterfly or the greenlace wing caterpillar may be killed along with other insects.That non-target insects could be affected is possible, but the experiments that triggered this concern were done in the laboratory where the insects were exposed to far higher doses than they would encounter in the field.

Another concern has to do with what is called gene flow—the transfer of the genes from the original plants to wild relatives. This is possible if insects or the wind carry GM crop pollen to these plants. The scenario here is that superweeds or weeds that will also be unusually pest-resistant will be bred. No superweeds have been found thus far, but caution is being exercised following isolation procedures used by the seed industry.

The April 2001 issue of the "Scientific American" carried an article addressing the safety of GM foods. It also carried an interview with Ms. Margaret Mellon, a lawyer, molecular biologist, and director of the Union for Concerned Scientists. Coming from a developing country, I was concerned with her statement that the US produces far more food than it needs and that they are so wealthy that whatever they cannot consume, they can bring elsewhere and her use of this argument against pursuing production of "new biotechnology foods." My concern is not with the veracity of her statement or the logic of it. My concern is that objections from her and the organization that she represents and from others of similar inclination may result in scientists being constrained from developing materials and methods that would be needed by countries that do not produce enough food for their populations or have the wealth to buy it from others.

What should be clear about the issues I discussed today—organic farming, biodiversity, GMOs—is that the verdict is not in and the issues are not clear-cut. So what do we teach our students? We must inform them about the issues, discuss with them the evidence for or against certain claims. But I wish to suggest that far more valuable than the teaching about burning issues of the day is the teaching of the methods and values of science.

Our students will encounter other issues in their lifetime. When I was a student, none of these issues were of any concern or even known. Our students must learn how to address issues. Studying science should help them do so.

A well-known author, Dr. Jacob Bronowski, poet, mathematician and physicist, sought and found in science a man-made wellspring of values. But how does one discover values in science? What human values can you extract out of a graph or the equation $E = mc^2$?

Perhaps we have not defined science correctly. The most common misunderstanding of science is to think of it as a fat loose leaf set of facts into which new facts are clipped one by one as they are discovered. This picture of science is quite wrong. Science is not just a collection of facts. It includes the search for facts, yes, but it is more than that. Science includes organizing the facts and finding in them some order in the form of laws and theories or concepts. It is in the conduct of those activities that values are developed.

What are these values that go hand in hand with science? Bronowski lists three: truthfulness or honesty, love of freedom or independence, and tolerance.

**Truthfulness or Honesty**. While I was still teaching at UPLB, two students consulted me about their project, which was caught up on a snag and they could not make any conclusive statements from the data they had. They needed to conduct another experiment. The results of that experiment, they realized, would prove or disprove their hypothesis. So they asked me what would happen if their hypothesis was disproved. I smiled. I wanted to see how they would face up to the situation. I was not disappointed as one of them said, "Well, we just have to report that that is way it turned out. *Hindi naman siguro tayo ibabagsak*," she said to her friend. ("Let's just hope she does not fail us," she said to her friend.)

These two students, as they grappled with the science of their project were also developing truthfulness or honesty.

But I would like to emphasize that one develops honesty while one does science not only because it is the correct thing to do but because you cannot do science without being truthful. If their hypothesis were disproved, by reporting the results truthfully despite the specter of a failing mark the two students would be contributing to the progress of science. By reporting that what they have tried does not work, they would have contributed to our knowledge about the world. But if they decided to lie, presumably because they would have gotten a higher grade, they would not have made any contribution to science at all, and instead set it back by reporting a lie.

We can practice science only if we value truth. We may get away with reporting a falsehood at one time, but truth soon catches up because in science reported facts and concepts are constantly tested by others for consistency with other facts.

Truth and science go hand in hand, and being honest and doing science cannot be divorced from one another because the end of science is to discover what is true about the world. The activity of science is directed to seek the truth.

**Love of Freedom and Independence**. The second value that science develops is love for freedom and independence. One who looks for the truth must be independent and the society in which he lives must safeguard this independence. Independence of mind safeguards originality and originality is necessary to make new discoveries. One of the expressions of independence is dissent. It would not be an exaggeration to say that there would not be change if dissent were stifled. And our knowledge of nature would not increase if there were no individuals who would question the authority of presently held ideas. By questioning the ideas of his time, Einstein was able to conceive of ways to describe our world better.

**Tolerance**. The progress of science requires tolerance among those who practice science. To be tolerant means to agree that other men are entitled to their opinions, but in science tolerance goes beyond that. The opinions of others must be given attention and respect. There are many stories in the history of science where ideas have been treated with disdain or ridicule. When Newman suggested that the elements were like the notes in the octave because properties were repeated in every eighth element, he was laughed at. When Arrhenius of acid-base fame suggested in his PhD dissertation that a solution of sodium chloride conducts electricity because it dissociates

in water to give charged ions, he almost did not get his degree; he was given the lowest passing grade. Perhaps science would have progressed a little faster if there were more tolerance for the views of others, for tolerance links the work of the past with those of the future.

Tolerance is very much related to respect for others, which implies humility. Humility allows one to give close attention to the opinion of others. This does not necessarily mean giving way to these opinions and agreeing with them. Rather, it means giving them their day in court, so to speak. If to lawyers, a person is presumed innocent until proven otherwise, to scientists, ideas deserve to be heard and are ignored only when found inconsistent with observations. Science requires that each man cultivate the habit of listening to others' ideas and respecting what others tell him.

Thus, in the practice of science, there is a set of values without which it would be impossible to carry on science at all. Science could not be carried on if there were some other end besides the truth or if some authority imposes a belief like legislating a definition for organic farming. Science could not be carried on if it did not implant in all those who practice it the importance of independence of mind and freedom to dissent from established opinion. These safeguard originality of thought which, in turn, leads to the discovery of new parts of the truth. In addition, science could not be practiced if the new ideas and the old were not examined and debated with tolerance, with respect, and with humility. Bronowski goes so far as to say that if these values did not exist in the world then science would have had to create them before it could make a single discovery.

As we teach science to our students, we need to also convey to them that science is a tool which unfortunately can be used both for noble and evil ends, both for service to others and service to oneself, and both to create and snuff out life. Homo sapiens decide on the course to take, the ends to pursue. Science tells us if we are holding true to the direction we have set. Our goals are borne out of many human concerns—morality, commerce, aesthetics, basic human needs, stewardship, and politics. Science does not dictate those goals, but science helps us achieve them. Yet we also hope that the values students learn in the practice of science and in learning about science will help them set goals that will work for the greater good.

Henry Margenau, physicist and philosopher, summarized this dual role of science in society when he said, "Having enabled us to swim the seas like fish, to fly through the air like birds, to rise into space like demigods, science may finally teach us to walk this earth like men."


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## On Becoming a Touching Untouchable

26 August 2006

Speaking at a graduation program of the UP Open University (UPOU) is certainly different from speaking at one in other colleges or universities. One simply has to look at you, the graduates, to know that. For one, you are not as young as those who graduate from other colleges and universities. Most of you, if not all, have already started on your careers and professional lives and a good number of you may have also started a family of your own.

Aside from maturity in years, however, what is the distinctive characteristic that UPOU graduates have? What do you carry with you as you get out of the virtual walls of this university?

I submit that your most significant trait after having studied at this University is the ability to learn. In the words of Thomas Friedman, a three-time Pulitzer Prize winner renowned for his views on international affairs and economic issues, this makes each of you an UNTOUCHABLE.

Friedman's thesis is that the global world of work is such that many jobs are being outsourced to where it can be done more efficiently and cheaply. One of the moving forces that make this possible is the same moving force that drives UPOU. The developments in information and communication technology make it possible for the source of work and the worker to be separated in distance and in time, in much the same way as the teacher and the learner are separated in an institution such as UPOU.

With this global work situation, an Untouchable is one whose job cannot be outsourced. You are, therefore, an Untouchable if you are "special," one who has a talent uniquely yours, whose work output has a global market and commands global-level work compensation. People like Bill Gates, the cellist, Yoyo Ma, or Tiger Woods.

You are also an Untouchable if you are specialized. You work in a highly specialized field, like Dr. Jorge Garcia, the notable heart surgeon who is based in the US but comes to the Philippines on a regular basis to operate on his patients who queue to avail of his specialized skill. Or you are a cutting-edge computer architect like David A. Patterson, hired by Sun Microsystems while continuing to be a full-time faculty of University of California Berkeley.

If you are an anchored worker, you are also an Untouchable. A very good example of an anchored worker is my gardener whose work has to be done in a special location, my garden. His job just cannot be digitized.

But the most important type of an Untouchable, one that concerns ordinary mortals like us are those who are capable of morphing to fulfill a job that is needed by the moment or created by the needs of the time.

Such a person has one critical skill and that is the ability and the desire to learn. In a world

where competitiveness is almost equivalent to innovativeness, one must be constantly renewing one's knowledge and skills or retooling to acquire new skills demanded by recent innovations.

The know-how of learning on your own is one you must have gleaned from studying in this university. The motivation to learn on your own is one you must have acquired if you did not have it yet when you entered this university. You will never be a dead wood or an NPA (non-performing asset) in your workplace. It will be the workplace that may become antiquated for you, in which case you will move on because you have the capability to reinvent yourself and adopt to a new job situation.

Another characteristic of our world is the ubiquity of change. This is nothing new. Change, aside from taxes, are the constants of this world. In this new world, change has been re-labeled to the more sophisticated word: innovation.

Ubiquity according to the dictionary is "being everywhere at the same time." The Internet and other communication tools have made many things ubiquitous.

An Untouchable, aside from knowing how to learn, needs to be conscious about the ubiquity of learning situations. One needs to realize that there are also many other Untouchables in many parts of this interconnected global village of ours. What will differentiate one learner from another is the quality of learning that one makes.

In your professional world, the quality of your learning will be defined by yourself. You will no longer learn for good grades. You will be learning for yourself.

Friends, join me and let us raise our caps once more and give this recent crop of Untouchables another round of applause.

Now I would like to talk about an overarching aspect of life which goes beyond our professional lives. I am referring to the overall quality of our life, to our well-being. It is a concern that goes beyond our knowledge, our skills, our creativity. I am talking about a fulfilling life.

First, let me tell a story. There was once a Filipino couple, married not many years ago. The woman just graduated from UPOU and to celebrate, they went on a second honeymoon on one of our beautiful islands. There they befriended an old man who said he was a native of the island. In one of their conversations, the man asked them which choice they would make given three offers. The first offer was that they would be given enough money to buy land, build a house, and buy a car. The second choice consisted of good paying jobs in the United States and green cards for both of them within a year. The third choice was a simple assurance that they will be given many, many opportunities to serve their country and their people.

The old man told them to think about the choices and to tell him in the morning of their decision. The couple laughed about it. They knew it was a hypothetical choice for certainly the old man was no genie who can grant them their wish.

*Ngunit nuong iniwan na sila ng matanda, sabi nang babae, "Ano nga kaya, kung halimbawang may kapangyarihan yung matanda na ibigay ang ating gusto, alin ang ating pipiliin?" Umupo sila at nag-isip. Naging seryoso ang usapan nila at parang nalimutan na nila na wala naman talagang katuturan ang pamimiling sinabi sa kanila ng matanda. Gayun pa man bago sila natulog, meron silang desisyon na nagawa.*

(But when the old man left them, the wife said, "What if, for instance, the old man really had the power to grant our choice, what would we choose?" They sat down to think. They grew serious as they talked and seemed to forget that what the old man was asking them was really quite fanciful. Nevertheless, they arrived at a decision before they went to sleep.)

*Paggising nila sa umaga, nagmamadali silang nagbihis at sabik na sabik na makausap ang matanda para masabi sa kanya ang kanilang desisyon. Pumunta sila sa lugar kung saan madalas nilang makita ang matanda, nag-antay sila nguni't hindi dumating ang matanda. Ipinagtanong nila sa mga taga roon kung nakita nila ang matanda ngunit walang nakakikilala sa ibinigay nilang paglalarawan sa matanda. Wala daw silang alam na ganuong matanda na taga roon sa kanilang isla.*

(When they woke up in the morning, they rushed to get dressed and were excited to talk to the old

man so they could tell him their decision. They went to the place where they usually see the old man. They waited, but the old man did not come. They asked the people in the area if they saw the old man, but no one knew the old man the described. The locals said they know no such person who lives on the island.)

*Takang-taka ang mag-asawa. Sino kaya yung matandang yaon na kumausap sa kanila? Natapos ang kanilang bakasyon na hindi nila ulit nakita an gmatanda at hindi nalaman kung sino ang matanda. Bumalik sila sa kanilang trabaho ngunit nanatili sa kanilang isipan ang kanilang desisyon.*

(The couple was baffled. Who was that old man who talked to them? Their vacation came to an end and they never saw the old man again and never knew who he really was. They went back to work, but they never forgot their decision.)

The time came when a former professor of the man when he studied in the US wrote to him, saying that there was an opening in their university and that if he applied he would give him a very good recommendation. In addition, once they get there, the professor said he is confident that the wife would also be able to get a job. The couple thought about the offer and they remembered the old man and the decision they were never able to tell him. The man wrote back to his former professor and thanked him, but told him they would really rather work in the Philippines.

In the meantime, the wife, an expert in food processing, was able to get a consultancy from a big food manufacturing company. She was told to falsify a report for an application for approval by the Food and Drug Authority of one line of products. The president of the company told her she would get five million pesos for making such a report. The wife discussed this with her husband and they knew that the five million would allow them to build the house they have been dreaming of and would also cover the down payment for a car. But once more, they remembered the old man on the island and the decision they made. The next day she wrote the president of the company that she was resigning from her consultancy.

The couple continued in their respective line of work, giving their best to any task they were given, and the woman reminding both of them of what the graduation speaker at UPOU when she graduated said to never stop learning. The man became known in his field; his work was so important to his field that they paid him to talk about his work in conferences and meetings in the Philippines and in other countries. He became known as an expert in his field so he was able to work out several projects which earned him a little extra money. He was asked to take under his mentorship some faculty members in universities so that they would learn from him. The woman, on the other hand, was tapped by the government to teach women in rural areas various food processing techniques so that they would have ways of earning money. She was very good at what she did and she helped many families earn a decent living. She received some amount of money for each training she did. She was also sent by the government abroad to undertake training herself.

The couple had two children. They put them to decent schools. They were able to build a small home. There was never a time that they did not have a loan from the GSIS; they used the loaned money to buy some needed appliances and to further improve on their house. They got lucky once and won the top prize in a raffle conducted by the professional organization they were members of; the prize was a Toyota sedan.

On their 30th anniversary they decided to return to the island where they had their second honeymoon. They remembered the old man, but knew he must have passed away already if he was even real. To their amazement the old man was there waiting for them at the place where they used to meet him.

*Kinumusta sila ng matanda. Sabi nung babae, "Sabi po ninyo mamili kami sa tatlo pero nakuha po namin halos lahat ng sabi ninyo na pagpipiliian lamang. Hindi kami nangibang bansa para kumita roon pero nagkaroon kami ng maraming pagkakataon na makarating sa ibang bansa. Naisama na rin namin ang aming mga anak sa ilang pagkakataon. Nakapagpatayo na rin kami ng aming sariling bahay at sinuwerte kaming manalo ng kotse sa raffle. Pero ang lalong nakapagpaligaya sa amin ay ang maraming taong natulungan namin maghanapbuhay at maging magagaling na guro."*

(The old man asked them about their life. The wife said, "You asked us to choose from the three options you have but we already got everything you said we only had to choose from. We did not

live in another country to work there but we had many opportunities to go to other countries. We were even able to bring our children along with us on some occasions. We were also able to build our own home and were fortunate to win a car in a raffle. But the thing that brought us the most happiness is that we were able to help many people to earn their livelihood and become very good teachers.)

*Tatango-tango ang matanda. Tanong niya sa mag-asawa, "Sa palagay kaya ninyo ay nakuha ninyo lahat ng dapat ay pagpilian lamang ninyo kung tinangap mo ang alok na magturo sa Amerika o kaya kung tinanggap mo ang limang milyon na suhol?"*

(The old man nodded as they talked. He asked the couple, "Do you think you would have gotten all that you were only asked to choose from if you accepted the offer to teach in America or if you accepted the five-million-peso bribe?")

Sa mga magsisipagtapos, ano sa palagay ninyo?(Dear graduates, what do you think?)

Now you might call my story *kuwentong kutsero* or a modern fairy tale, but I can tell you that I know of many couples who made the same choice as the couple in the story and who now enjoy all the benefits of not one but of all of the three choices the old man offered.

What is interesting among these people who choose to make it their purpose in life to serve others is that they turn out to be happy and fulfilled individuals. They are rich in more ways than just having lots of money. Their stories support the results of studies about what it is that makes people happy. Research on this subject have shown that the single most important element that makes people happy is to be engaged in ways that would use one's personal strengths to serve some larger end.

I would also like to share with you what advice these researchers have about what we should do to have a happy, fulfilled, and satisfying life. Professor of psychology Sonya Lyubomirsky of the University of California suggests eight measures:

First: Count your blessings. *Gabi-gabi bago tayo matulog isa-isahin nating alalahanin ang biyayang natanggap natin sa araw na iyon. Nabigyan mo ng solusyon ang isang problema sa opisina. May nakilala kang bagong kaibigan. Hindi ka nakapagdala ng payong pero hindi naman umulan. Mga simpleng biyaya na kaya lamang minsan ay hindi natin kinikilalang biyaya.*

(Every night, before we sleep, let us remember each of the blessings we received that day. You were able to help solve a problem in the office. You met a new friend. You forgot your umbrella, but it did not rain. Simple blessings that sometimes we do not see or consider as blessings.)

Second: Practice acts of kindness. *Ipagluto ng pagkain ang kapitbahay na maysakit. Pagbigyang mauna sa pila sa grocery and isang may bahay na may dalang anak na nag-aalburoto na. Padalhan ng text ang isang kamag-anak na kailan lang ay namatayan.*

(Cook food for a sick neighbor. Let a mother with a bawling child go ahead of you at the grocery check-out counter queue. Send a text to condole with a relative who recently had a loss in the family.)

Third: Savor life's joys. *Eto yung, lumabas ka isang gabi na maaliwalas ang langit, tumingala ka at pagmasdan ang buwan at mga bituin. Namnamin mo ang masarap na luto ng iyong Nanay. Magbihis ka ng maganda. Sumunod ka sa uso kung bagay sa iyo.*

(One night when the sky is clear, look up and gaze at the moon and the stars. Relish your mother's delicious cooking. Dress up nicely. Wear something trendy, if it suits you.)

Fourth: Develop ways to cope with stress and hardships. *Huwag mong bayaang hilahin ka pababa ng kahirapan ng buhay. Humanap ka ng paraan para makaya mong harapin ang kahirapan na tiyak namang mararanasan ng bawat isa sa atin. May iba nag-yoyoga. May kaibigan akong nag-bebelly dancing. Ang iba may kaibigan na marunong makinig sa problema ng iba. Marami sa atin ang dumudulog sa Diyos sa pamamagitan ng panalangin.*

(Don't let the hardships of life bring your spirits down. Find a way to cope with the difficulties which afflict each and every one of us. Some do yoga. I have a friend who does belly dancing. Others have friends who know how to listen to other people's problems. Many of us turn to God in prayer.)

Fifth: *Alagaan mo ang kalusugan ng iyong katawan. Get a regular medical check-up. Eat healthy. Do not abuse your body by subjecting it to too much alcohol.*

(Take care of your body and stay healthy.)

Sixth: *Matutong magpatawad. Huwag magtanim ng galit. Pampabigat ito ng kalooban. Nakakagaan ng dibdib ang magpatawad, di ba?*

(Learn to forgive. Don't bear grudges; this will only weigh you down. Your heart feels lighter when you forgive, right?)

Seventh: Thank a mentor. A mentor is not necessarily a teacher. A mentor may be an aunt, a grandparent, a neighbor. Show them and tell them that you appreciate them.

Eighth: Invest time in friends and family. Strong personal relationships is very important in giving us satisfaction and happiness. They are more important than where you live, whether you own a car or not, your job title, and so on.

One thing that amazed me about this list is that to be successful and wealthy are not included in the list. How liberating to know that we do not have to be successful or wealthy to have a satisfying, happy, and fulfilled life. And how satisfying to know that a happy and fulfilled life breeds a successful or wealthy one.

What I am saying is that it is important early in your careers or professional lives that you think beyond the fulfillment of ambitions and consider using your talents and your blessings to work for the common good, in particular the common good of our country folk. I firmly believe that if we keep in mind each other's welfare as we go through our lives, then all our efforts will come together, reinforce each other, and result in the good of the greater number among us. *Lahat tayo uunlad at hindi ang iilan lamang na siyang nangyayari ngayon.* (Every one of us will prosper, not only a few which is what is happening now.)

The quote from Dean Leon Ma. Guerrero at the back of your graduation program, spoken also at a graduation exercise more than a century ago, speaks of the same message. He said, "*Kayong mga magsisipagtapos, huwag kayong magbingibingihan sa panawagan ng bayan; maghanga'y tumulong kayo sa paglikha ng isang bayang malaya, na siyang adhikaing kinasasangkutan ng lahat ng inyong mga kapatid at kababayan*." (To you dear graduates, do not turn a deaf ear to the call of our country; do your part to help create a country that is free, which is the goal of all your kin and countrymen.)

To put everything I have said in a nutshell so that hopefully you will remember: Be a touching Untouchable—one whose age is counted by the lives you touch but who remains incapable of being declared antiquated professionally by being an Untouchable.

Once more, congratulations and good wishes!

## Felix Librero

Chancellor, 2001-2007

### A Bio Note

One of the very first concepts in knowledge management is institutional memory. An organization is what it is because of its institutional memory. It is one of those intangibles that enable the market value of a corporation to exceed its book value many times over. The peculiar thing about this intangible, however, is that it is, more often than not, implicit. It does not reside within the institution's databanks or official records but within the minds of key individuals in it.

Much of the institutional memory of the University of the Philippines (UP) on distance learning is in the mind of a scholar who became the second chancellor of the UP Open University (UPOU), UP's fifth constituent university, Dr. Felix Librero, who was appointed Chancellor of UPOU in March 2001. His investiture speech, "Swaying with the Dance of Change," was somewhat prophetic. During his term, UPOU shifted or, more appropriately, swayed from conventional print-based delivery to an online delivery system, prompting no less than then President Francisco Nemenzo, Jr. to refer to UPOU as UP's cybercampus. Lex Librero has been called the Millennium Chancellor, ushering UPOU to its rightful place in this knowledge age.

When Dr. Ma. Cristina D. Padolina implemented the Science Teaching Using Distance Instruction (STUDI) program in the 1980s, it was Lex and his team who manned her delivery system. When UPOU was still a figment of President Jose V. Abueva's imagination, Lex was part of a group that included Dr. Delia R. Barcelona, Dr. Rogelio V. Cuyno, and Dr. Francisco Nemenzo, Jr.,who provided the blueprint of the institution. Years later, in

March 1994, Lex became the first director of the UPLB Distance Education Office. Soon after, he was appointed as the founding dean of the UPOU School of Distance Education (Los Baños). Prior to his designation as Chancellor, he became UPOU's first Vice-Chancellor for Research and Development.

Apart from being one of UPOU pioneers, Lex was among those who introduced distance learning to UP in the mid-1960s. As a working student at Radio DZLB, and later on as Station Supervisor and eventually, as Station Manager, Lex planned, implemented, and hosted several schools on-the-air. These non-formal education undertakings became UP's first distance education offerings. His experiences in conducting DZLB schools on-the-air enabled Lex to write his first nationally circulated publication, "The School On-the-Air Manual for Masagana 99 Rural Broadcasters," in 1975.

It was these early sorties in non-formal distance learning that prompted Lex to pursue a PhD in Instructional Systems Technology at Indiana University. For two years prior to his departure to the States, he worked with the community broadcasting staff of the then Department of Development Communication of UP Los Baños and trained close to 200 rural broadcasters from all over the country in five batches. Any rural broadcasting old-timer worth his salt would have fond memories of Lex Librero, ranging from impassioned lectures on radio as a calling delivered with his modulated announcer's voice, to Friday night get-togethers at his home.

Lex spent three years in Indiana as a World Bank-EDPITAF scholar. His young family shared the cold winters and enjoyed the bright summers with him in Bloomington. He prudently earned additional spending money by typingup dissertations of affluent Saudi Arabian aristocrats who occasionally approached him for informal academic advice. When he and his family moved back to Los Baños, he had an additional administrative responsibility waiting for him as head of the newly established UPLB Educational Communication Office (ECO) under the Vice-Chancellor for Academic Affairs. ECO was something for Lex to fervently sink his teeth into for he felt he had so much to share. Lex was excitedly brimming with new ideas, which subsequently consumed an entire generation of development communication junior staff who lined up to become his graduate advisees, myself included.

Those were heady years for us. Our Friday night sessions took an intellectual turn with avid discussions on systems theory, information economics, naturalistic inquiry, and convergence—concepts which were introduced by Lex in his new courses. On the practical side, he involved us in instructional materials production at ECO and video production training at the Department. Development communication's entry into the Information Age was prompted when Lex, as Department Chairman, negotiated for the first personal computer ever to be installed in the campus—a Texas Instruments PC—which we eagerly explored for desktop publishing, spreadsheet, and database applications. A decade before Internet service providers set up shop in the Philippines, Lex was lobbying for a "wired" UP. In the late 1980s, he prepared a telecommunications infrastructure plan for the UP System, which was submitted to President Abueva's office. It was therefore only natural that UPOU would go digital under Lex's term as Chancellor.

By the late 1980s, Lex was neck-deep with administrative responsibilities. Many of his contemporaries considered balancing administrative responsibilities and academic performance as a zero-sum game. Lex proved them wrong by being as productive as a full-time scholar. At the College of Development Communication, where he served as an administrator continuously from 1981, he initiated and taught five new courses while teaching four other courses at one time or another. He served as adviser to at least 30 BS graduates, 20 MS graduates, and 12 PhDs. In spite of his administrative duties at UPOU, he wrote two distance learning courses, served as reader for another two, and was Instructional Designer for 17 courses at the diploma and master's levels. This zeal for program development carried over during his term as Chancellor when the UPOU Bachelor of Arts in Multimedia Studies was conceptualized. After his term, he took on the challenge of leading the design and development of the UPOU Doctor of Communication program.

The discourses that follow reflect Lex Librero's character as a trailblazer, a champion of information and communication technologies, a scholar, and a teacher. As Professor Emeritus of UPOU, we can rest assured that this repository of institutional memory will still be part of us for a long, long time to come.

Alexander Gonzalez Flor

## Investiture Address
### *Swaying with the Dance of Change*[1]

25 August 2001

Honorable Ester Garcia, Chair of the University of the Philippines (UP) Board of Regents and Chair of the Commission on Higher Education, Honorable Regent Oscar Alfonso, Honorable Regent Eduardo Hernandez, Honorable Regent Victor Reyes,

Vice President Maria Serena Diokno, Vice President Jose Endriga and other UP System officials, Chancellor Wilfredo David of UP Los Banos, Chancellor Ricardo de Ungria of UP Mindanao, Dean Prescilla Macansantos of UP College Baguio, Vice Chancellor Erlinda Paterno of UP LosBaños, Vice Chancellor Arlene Samaniego of UP Manila, University Professor Gelia Castillo,

Undersecretary Fe Hidalgo of the Department of Education, Culture and Sports, Assistant Secretary Carol Yorobe of the Department of Science and Technology,

My predecessor, former Chancellor Ma. Cristina Padolina, who is also incoming Commissioner of the Commission on Higher Education, Director Ruben Villareal of SEARCA, Deputy Director General William Padolina of the International Rice Research Institute, President Paciencia Milan of Leyte State University,

Dr. Colin Yerbury, Dean of Continuing Education at Simon Fraser University in Canada, Atty. Oscar Ventanilla, President of the Indiana University Alumni Association, Philippine Chapter,

My good friend and kababayan Congressman Florencio Abad,

The Vice Chancellors, Deans, officials and faculty of the UP Open University (UPOU), parents, our class valedictorian, members of the graduating class, friends, ladies, and gentlemen.

This is the fifth commencement exercises of UPOU. There is probably little significance attached to this being our fifth commencement exercises. However, I believe that there is some importance to call graduation ceremonies commencement exercises. The term "commencement" symbolizes your renewed commitment to your professions, having sought and successfully gained additional knowledge, skills, perceptions, and perhaps even attitude and a refined worldview that would make you more productive and concerned professionals. For this, I extend to you my heartfelt congratulations.

It happens, too, that as part of this commencement ceremonies today we are celebrating my investiture as the second Chancellor of UPOU. This makes this occasion doubly significant for me. I shall, therefore, take this opportunity to verbalize some of the general ideas and framework that shall guide our administration of UPOU in the remaining two and a half years of my term.

During the search for UPOU Chancellor late last year, I presented a vision paper outlining the major tasks that I said I would undertake if I were given

the opportunity to serve as Chancellor. We are now pursuing these tasks, hence I do not wish to repeat them here now. What I have decided to speak on instead is an updated overall framework within which we at UPOU shall pursue our goals more dynamically, effectively, and efficiently.

In his book titled "The Dance of Change," published two years ago, Peter Senge, author of the classic management book titled "The Fifth Discipline," which was named by Harvard Business Review as one of the five "key business books" in the last two decades of the last century, highlights three important challenges that all learning institutions must face. First, he said, we deal with the challenges of initiating, then the challenges of sustaining transformation, and finally, the challenges of rethinking and redesigning.

**First, the Challenges of Initiating...**

According to Senge, when we initiate innovations, there are three basic issues that we are faced with. He said there is that feeling of not having enough time to put in place the innovations we need to introduce. This tells us that whatever we intend to put in place we must do quickly, which means that we must be able to put in place a cohesive team to implement the innovations.

Many times, however, this cohesive team is difficult to put together, particularly under the current circumstances of UPOU, such that it would take some time to get things done. Even until now, six months after we have officially taken on the management of the university, we are still in the process of putting together a cohesive team that is tasked with introducing and sustaining innovations in the organization. While we think that the team we now have is working, it is also possible that it shall still need crucial refinements, perhaps even restructuring. We are, of course, aware that changes in our team may even happen on a continuing basis.

When we initiate innovations, frequently there is that feeling that we are not getting the help we need. To this end, we have been fortunate at UPOU because our friends and colleagues from our own mother institution, the UP System, as well as those from other open universities worldwide have been generous in helping us out from the time we were getting started until now. Indeed, we have had the opportunity to adopt what was deemed good in the model universities that we looked at and changed those that were considered weak points under the Philippine setting.

A third issue as regards the challenges of initiating is what Senge refers to as the feeling that you are introducing an innovation that is not relevant because people question these innovations that are being introduced. The concepts of the open university, open learning, and distance education continue to be the bone of contention probably not because people do not have a clear understanding of them, but perhaps because of basic concerns with issues that are very close to our hearts. We at UPOU shall continue to be open to clarifications and change. After all, it is our conviction that no innovation is so excellent as not to permit refinements.

All said, however, I wish to acknowledge my predecessor, former Chancellor Ma. Cristina D. Padolina, for having set the direction and cadence of UPOU. As trailblazer in the area of alternative educational delivery, the team of Chancellor Padolina did a fine job of building a ship that is UPOU and also made sure that this ship was built sturdy enough to keep floating and moving toward its set direction even beyond their six years of stewardship.

We shall always continue innovating, especially in the areas of course development, instructional delivery, and even perhaps in the area of organizational structure and management. We are aware that the physical structure, rules, and procedures needed to run an open learning and distance education institution are not exactly the same as those needed to run conventional institutions. We have in our hands a situation that highlights a problem in management due mainly to the mismatch between rules and procedures on one hand and structure and program characteristics on the other, and we have an opportunity to solve this management problem. And we shall proceed to resolve the issues according to the needs of the institution. Lest we forget, I wish to remind us all that UPOU itself is a great innovation that we have started and must continue to nurture so that we may be able to accomplish achieve the objectives we have set out to achieve. As the Englishman would say, we must walk the talk.

**Second, the Challenges of Sustaining Transformation…**

Let me now segue to Senge's challenges of sustaining transformation. His first issue is that of fear and anxiety. If I may be candid about it, many of our friends and even close colleagues have been both fearful of and anxious about what the ultimate impact would be of an open university within the midst of a conventional institution, largely because our stance has been essentially to travel the uncharted waters of educational delivery in the Philippines. We have to do pioneering work in a lot of areas, and pioneering work is not always immediately acceptable. We must introduce newer and possibly better ways of designing, producing, and delivering course materials. To a large extent, this has been unsettling and unnerving to many of our colleagues.

Going into its seventh year, UPOU still feels some of this uneasiness. Of course, no one said it was going to be easy when we started out. However, I am hoping that this feeling of uneasiness will be replaced by a feeling of at least guarded support as we move to put in place more extensive cooperative undertakings with the conventional components of the UP System during our seventh year. Seven may yet turn out to be one of the lucky numbers of UPOU.

Another critical issue that is frequently mentioned in our efforts to sustain the innovations that we have installed are the twin issues of assessment and measurement. This is an area that we still need to continue developing strength in. We must now venture farther into innovative and creative assessment and measurement techniques. This would lead to better evaluation of the impact of what we have accomplished thus far. It is of paramount importance to UPOU in particular and to the UP System in general that we employ precise measurements of performance so that we will know for sure that we do, in fact, maintain quality and high standards for which UP is known.

A third challenge of sustaining transformation is that which deals with people and institutions. Those who believe and those who do not will always be around us no matter what. Their presence is a strong argument that we must fashion out a plan of action to increase believers and relate reasonably with non-believers as professionals who have as much right to this institution as we do. Let me point out though that what some may call non-believers, to me, are not really non-believers but are simply concerned that those of us who are directly involved in the implementation and operation of UPOU should do so with the interests of the UP System in mind.

By being fearful that we might fail I wish to take as an indication that they, in fact, are as concerned as we are about the welfare of this institution. This alone is a strong argument for those of us in the organization to try the best of our abilities to seek their understanding and cooperation. And the language to be used is performance. We must demonstrate that we are right and are able to do what we have set out to do. It is my belief that deep inside the hearts of our colleagues who are at the moment still figuring out what we are able to deliver is a feeling that we are actually on the right track and that we are sincerely concerned about the standards we go by.

Our colleagues in academic administration do agree that our affiliate faculty, the experts who are helping us out at UPOU, are also their best. Consequently, therefore, there should be no alarm at whether or not we are maintaining the standards of UP. We are. In fact, we are rather stringent in many of our requirements.

To further demonstrate our sincerity and eagerness to collaborate with our colleagues in the various constituent universities, we are pursuing a strategy of critical collaboration with the other constituent universities, particularly in the area of course development.

A strategy in course development, for example, that we are beginning to pursue is the involvement of a diverse group of experts who shall work together in the conceptualization and development of course materials that are deemed very important not only for UP students, but also for students of other higher education institutions in the country. I am referring to course materials for general education (GE) courses that we will develop in very close collaboration with the GE faculty of the UP who have not had the opportunity to work with us in the past. Through these collaborative efforts, we hope to demonstrate that UPOU is here to provide our colleagues a mechanism through which they can unleash their creative powers in course design, development, and delivery.

This, I hope, shall lead to an institutional system whereby together we shall produce the best instructional materials that will be made available to all students of various higher education institutions in the Philippines.

**Finally, the Challenges of Rethinking and Redesigning…**

So we have initiated and will continue to initiate innovations. This, after all, is what UPOU is all about. We shall continue to sustain the innovations we have put in place. We have more to do. Again, Senge raises three issues here.

We must rethink and perhaps even redesign our governance to suit the innovations that we have introduced. By their very nature, innovations require new ways of doing things, possibly new structures as well. New endeavors do not always sit well with current ways of doing things, especially if these new endeavors differ radically from what we have been used to. This condition is what science historian Thomas Khun refers to as anomaly in his analysis of the structure of scientific revolutions. Over time, Khun says, this anomaly becomes the norm until another anomaly arises from the work of a critical mass of experts who have developed new methods that do not quite fit the current framework. This we also call paradigm shift.

Relative to the delivery of education in the Philippines that we have always been familiar with—the classroom lecture—distance education is, indeed, an anomaly. But this anomaly has become a norm worldwide and openly accepted in the circles of contemporary educational philosophy. Worldwide, numerous higher education institutions have started offering their courses in the mixed mode, that is, part conventional and part distance. In the Philippines, a problem could quickly arise out of this mechanism because the current configuration and culture of conventional universities in the country do not necessarily fit the framework of distance education and open learning. Hence, we have to reconfigure our organizational structures, rules, and procedures to enhance innovative delivery of instruction.

If Senge is correct, and I believe he is, then we at UPOU must continuously strategize because this is a good coping mechanism in a very dynamic environment. Our work environment today is extremely dynamic. Changes occur quickly due largely to the rapid development of new technologies that wc employ as basic tools to achieve our educational objectives. Hence, we shall have to continuously assess our position, establish where we are at any given time, decide where we may want to be within a time frame, and determine how we will want to get there the most efficient way.

My own view of what Senge is saying is really very simple. As UPOU is an institution that has to continuously innovate in its delivery of educational services particularly in the area of open learning and distance education, it has to have enough elbow room in order to effectively and efficiently deliver its programs and services. Operating within the framework of the conventional model of instructional delivery, it is hampered and stunted. Even now, UPOU must be treated differently from the constituent universities of the UP System precisely because the rules and procedures that are uniformly applied to these conventional constituent universities do not quite fit the framework of distance education, open learning, and an open university. This is an anomaly that we are grappling with. With appropriate assistance, we hope to be able to resolve this anomaly in time.

As suggested by Senge, we must rethink and redesign the governance that should be appropriate to the innovations that have been put in place. The innovation on governance that I wish to propose is not something that we have already started implementing unlike the programs that are now existing. This proposal needs serious thinking and consideration because it is a new thing itself, as far as UP is concerned. Although it is not actually a new idea, it is one—with all its seeming radicalism—whose time, I believe, has come.

UPOU, being uniquely different from the other constituent universities of the UP System in terms of structure, rules, and procedures, must adopt a governance that fits its nature and characteristics. Simply stated, it must be treated differently, perhaps even as some kind of a separate entity much like a corporate subsidiary of a holding company. However, it shall not be merely a corporate university whose purpose is mainly to enhance the competencies of a corporation's employees and suppliers, or only help its customers use the corporations products more effectively.

UPOU is a degree-granting academic institution, a constituent university of the UP System, that must operate under its own academic rules and procedures—those that fit the nature of open learning and distance education. Its performance as an institution as well as the performance of its graduates, however, must be measured using the yardstick against which all the other constituent universities are measured by.

I propose that only when we operate this university according to the requirements of its programs in open learning and distance education will we realize its full blossoming. Under such set-up, we believe that all the innovations that we have been able to put in place, as well as those that are still to be put in place, shall be properly dealt with in full consideration of all the pertinent quality standards that the UP System operates by.

**Conclusion**

In a nutshell, that is the idea. The gestation period for this kind of idea will take some time, as most do, particularly at UP. But it should now be noticed. Above all, it should now deserve to be clarified and discussed seriously rather than merely swept under the rug as it were.

Again, I propose that as we continue improving our programs and procedures, we at the same time redesign our governance of UPOU to enable us to sway with the dance of change that has taken grip of institutions of higher learning worldwide. If we are able to do this, it may yet prove once more that we at UP can and do change when there is need for it

A new governance for UPOU is, indeed, worth putting in place. This, it is hoped, will result in a new dynamism that will enhance further the university in ways that will prove to us all that we are doing the right thing. I trust that when all these are done you will even be prouder to be alumni of UPOU.

Thank you and congratulations again.


## Constraints-Cum-Challenges in ICT Education in the Philippine Setting

17 May 2001

The overall theme of this Congress is Higher Education in the Knowledge-based Economy. It is as timely as it is important, for the order of the day has something to do with issues like knowledge management, knowledge-based economy, and open learning and distance education. The directions for education in the future are now here with us today. Future scenarios in education are no longer simply on the drawing board; the future has arrived ahead of schedule. We have to rethink where we are heading, and make the finer adjustments quickly.

The sub-theme for this concurrent session is Managing Challenges and Constraints in ICT Education. I shall, therefore, try to focus on the issues that I have grappled with from the point of view of the social sciences.

I wish to focus on 10 issues that I feel are affecting the way we deliver our educational services and the way our students learn or trying to learn in the information society. Given the amount of time to expound on these, I shall only be able to provide highlights.

**The New Learning Paradigm**

Sometime in 1995, the International Council on Distance Education (ICDE) conducted what it called an "anecdotal, worldwide survey to determine the nature, reality and pace" of the shift in the learning paradigm (ICDE, 1996). The survey noted the following clear signs: (1) shift from objective to a constructed knowledge, (2) shift from an industrial to a knowledge-based society, (3) shift in educational missions from that of providing instruction to providing learning, and (4) shift from "current college and university models to as yet undetermined structures."

Over the past five years, the fifth observation of ICDE has become very clear. The "undetermined structure" that was referred to at the time of the ICDE survey has come to be known as the "virtual" learning structure. Similar observations were made by experts from the information and communication technology (ICT) sector at about the same time period.

According to Garmer and Firestone (1996), due to the new ICTs, "the paradigm for learning is shifting away from the traditional notion that 'knowledge' is transferred from teacher to student within the confines of the classroom."

Today, learners must take control over their education. And the teachers must now let go of their authority over the classrooms and function as facilitators of learning. Quite naturally, for many, this is the difficult transition. Still, we must do it.

**The Need to Retool Ourselves**

We must upgrade our skills, particularly in the use of the new ICTs. The term that many use when referring to the need to upgrade our skills is "re-

tooling,"but many also are not comfortable with this term as it sounds too mechanistic. It is as if the new technologies dehumanize people. We can use another term, "re-skilling,"but this sounds too manipulistic.

The more important issue is, what do we do with those who refuse to be retooled, or those who cannot be retooled? Luckily, for all of us institution administrators and knowledge managers, there is an old technology that is perfect for this problem. It is called retiring.

In a more serious note, the cognitive and motor skills that we need today are quite different from those we needed just a few decades ago. Today, we have to learn to understand and use new technologies that change quickly. In fact, by the time we just learned to use the computer, somebody changed the model and added new features that required six more months to learn. And by the time you are able to understand the new features and feel you're ready to use the machine, you are faced with the need to purchase a new machine that would certainly require more learning to manipulate. And this continues on and on that one wonders if there ever will be an end to it all. Obviously, there is no end to this learning and relearning, as long as new technologies are developed. It's a fact of our professional lives.

**Developing Skills for Independent Learning**

The new learning paradigm highlights an important issue. There is a need for learners to upgrade their skills, particularly skills to learn on their own. This largely requires ability to seek, understand, and use information which, in turn, requires the ability to use technology.

In today's world, one must be computer literate to gain access to information and new knowledge. The use of computers in education is by no means new. There is quite a number of success stories, but there are also failures. Perhaps one indicator of the magnitude of use of computers in the educational enterprise is the proliferation of computer-based programs such as computer-assisted instruction (CAI), computer-based learning (CBL), computer-based training (CBT), computer-assisted learning (CAL), computer-managed learning (CML), and so forth.

Darby (1955) has teasingly referred to this proliferation of three-lettered acronyms as an indication that "something has gone badly wrong" in the use of computers in teaching. Still, it must be pointed out that there is rich information in the scientific literature in support of the positive influence of computer technology in enhancing learning. Computer technology has, in fact, facilitated independent learning skills among the youth of today.

If you think this analysis is inaccurate, check with your six-year-old son or daughter tonight. Chances are that he or she has already mastered all that needs to be known about the computer software you bought yesterday, while you still have the next few months to learn it.

**Nuances of Open Learning and Distance Education**

These two concepts are clearly influencing the manner in which education is being delivered today not only in the Philippines, but also worldwide. Open learning is a philosophy of access to education, while distance education is a system of delivering learning materials. They are different, but they go together in many cases.

Through the Internet, transborder delivery of courseware has become commonplace worldwide. This has enabled even unknown educational institutions elsewhere to link up with any Philippine institution in order to offer degree programs to students in the country. This is called twinning. Content of these programs is something we do not know. What we are certain of is that educational institutions in other countries trying to offer their wares to learners in this country are more interested in the economic returns than in the education of Filipinos.

This phenomenon is an economic advantage to those institutions offering the programs because they can serve more students worldwide and the more students they have, the better for them financially. However, it is a disadvantage to the learners because any courseware is culture-based and irrelevance of the instructional material to the specific circumstance of the learner can become a problem.

To counter this disadvantage of transplant programs from abroad, the UP Open University (UPOU) is now offering the Graduate Education Enrichment Program (GEEP). This program provides graduate students from various higher education institutions in the country the opportunity to enroll in over 100 courses listed in 16 graduate programs so that they can enrich their current programs in their respective universities.

We are inviting you all to ask your graduate students to enroll in one or perhaps two courses offered in the distance mode by UPOU, and credit these courses in their programs in your institutions. Naturally, they remain your students and will be your graduates. They simply cross-register in our courses under this program. All they do is present to the UPOU permission from your registrars to enroll in courses they have selected, perform the requirements of the courses, and pass the examinations required by these courses. Then they get credit for the courses they enrolled in

**Convergence of Technologies**

An important trend in information technology (Buttler, 1997) will continue to provide opportunities for improved mediated delivery of instruction. This trend is the convergence of technologies. According to Buttler (1997), "convergence, or 'coming together at a point,' describes the growing changes reshaping information technology (IT) today." She observes that cable companies and telecommunications companies (known as telcos) are competing for voice and data traffic, personal computers (PCs) are now competing with main frame and mid-range computers, and the rapid spread of IT is becoming a global competition.

On another note, the convergence of technologies is also changing the manner in which learning materials have to be designed. In general, more senses are becoming involved in the learning process and sensory-based activities are now more interrelated and interactive. This phenomenon has improved the quality of learning among the youth.

Two ICT technologies that have fantastic potentials in the innovative delivery of instruction are the Internet and teleconferencing.

The Internet has ushered in a new dawn in the design and delivery of instruction in ways never before experienced by both teachers and learners. Interactivity between teacher and learner, which is perhaps the most critical feature of classroom face-to-face instruction that many educators are unwilling to forego, has become a virtual reality through the Internet. Countless courses, even complete degree programs, are now offered online and these are all designed to be interactive. The more we use the Internet in the delivery of courses, the more we realize that we have not completely understood its power and potentials for both formal and non-formal education.

**Moving the Expertise, Not the Expert**

Given developments in the electronic communications sector over the last couple of decades, we are simply just beginning to experience dramatic changes in the education sector. That's how much time it takes the education sector to respond to developments in other sectors.

The magic of teleteaching and teleconferencing has provided learners opportunities to interact with the experts without having to expend too much time and resources to get those experts to the classrooms. It has not always been possible to physically get experts into the classrooms. But due to the fixative and distributive properties of the communications media, we have been able to bring known experts into the classroom and into the work stations of learners.

Electronic communications has made it possible to expose learners to known experts across distances. This has somehow created a kind of contagion between expert and learners. One influences the other without either one consciously knowing it. Such is the power of the new information and communication technologies. It is now the responsibility of instructional designers to take advantage of this contagion in introducing instructional strategies that facilitate learning of an increasing amount of information over a shorter period of time.

**Technological Dependence**

Perhaps the scariest phrase in modern times is: "The computer is down."This is a clear evidence that, indeed, we are prisoners of our technologies. When we become too dependent on technological hardware, we risk our very own natural creativity. But then again, creativity facilitated by technological advancement is creativity still, and this is what we need to make technology work for us.

There is another side to this. Dependence on hardware technology can and does mean dependence on countries that produce the new machines. We are unable to produce machines the way the endowed countries do. We can only wait to get our hands on these hardware that they have developed. We become users, not producers.

The other side of the technological debate deals more with software rather than hardware. It is in the hardware department that we cannot compete, for obvious reasons. But in the software department, Filipinos are in a very good position to make their presence felt worldwide. It is perhaps high time that we develop software technologies, other than viruses, that can be beneficial to the world. There are a number of computer programs developed by Filipinos that have, in fact, become very crucial programs in the computer world.

**Death of Distance**

Given the developments in telecommunications and computerization, communicating to anywhere in the world is now done in real time. Distance is no longer an important variable in communications worldwide. With your cellular phone that has roaming capability, you can talk to anyone anywhere from anywhere. The world has truly become a global village.

This is the death of distance, facilitated by three transport revolutions. According to experts, we have had three transport revolutions. First was the revolution of the transport of goods; then the revolution of the transport of people;and today, the revolution of the transport of ideas and information (Sjoberg, 1999). The third revolution has raised a number of questions, two of which have something to do with education and training. One, how do we deal with the global deluge of information? Two, how will our universities adjust their academic programs and courses to prepare their students for the new world?

That we have overcome the barrier of distance through the magic of modern telecommunications is a feat that has influenced the way we share information. This shall continue to have untold effects on the way we deliver education.

**Virtuality**

Technically defined, virtuality means the state of being something specified in essence or effect but not in name (International Webster's Dictionary). We would actually understand it better if we return to the term virtual, which means "something not truly real but only potentially so" (Mantovani, 1996). "Virtually," means almost entirely. Virtual reality, according to Mantovani, is an "environment of experience and of communication."

Today, we hear the terms virtual classroom and virtual university. This condition of virtuality is a result of the use of information and communication technologies to facilitate access to information and knowledge that are scattered in various sources.

Virtuality is a condition that has made possible access to educational services from various education providers. This works well when the educational institutions themselves enter into consortium arrangements and agree on certain procedures to make their resources such as library holdings and courses accessible to their respective students.

**Dance of Change**

In his book titled "The Dance of Change,"Peter Senge highlighted three challenges in sustaining momentum in learning organizations: the challenges of initiating, of sustaining transformation, and of redesigning and rethinking.

In brief, Senge says that we introduce innovations of transformations into a learning organization, sustain those innovations or transformations, and rethink the governance that will suit the innovations or transformations that have been put in place. The net result is continuing change.

Traditionally, educational institutions have not always been quick to adopt innovations.

This characteristic, though, may not really be disadvantageous at all. Having been slow, the education sector has benefited much from the technological developments, for instance, in the military establishment. For example, the overhead projector was an inheritance of educators from the military during the secondworld war. More recently, the education sector has benefited greatly from the Internet, which is an original masterpiece of the military.

What has happened, however, is that the education sector has simply been recipient rather than generator of technological advances.

That is to say, the engineers have always said: "Educators, here is a piece of gadget, why don't you use it in your teaching?" Now, I propose to turn the table around and tell the engineer: "Mr. Engineer, here is an educational concept that we want the people to learn quickly. Design for us an appropriate piece of equipment that will facilitate how the concept will be learned."

**Conclusion**

To conclude, I wish to mention again that the manner in which we deliver our educational services and the way our students learn are influenced by the following crucial issues:

1. The new learning paradigm now forces students to take control of how they learn, and the teachers to let go of their control of the learning process in the classrooms and begin to function as facilitators of learning.

2. Our students, even immediately after graduation, find the need to retool themselves to be more productive in the current work environment. Equally important, of course, is that we ourselves must retool if we want to be effective facilitators of learning.

3. We must help our students develop independent learning skills as it is not possible for us to constantly supervise how they learn within the confines of our classrooms.

4. We must understand the strengths and weaknesses of open learning and distance education, and develop our capabilities to undertake distance learning activities for this is the direction toward which educational institutions worldwide are moving.

5. The concept of technological convergence must enable us to take advantage of the strengths of the new information and communication technologies in order that we may be able to develop and deliver educational materials more creatively, effectively, and efficiently.

6. In the past, we have been preoccupied with transporting experts so they can share their expertise. This has been very expensive. Now, we have the technologies and skills to move the expertise without transporting the experts. This improves our effectiveness and efficiency.

7. For quite sometime yet, and until such time that we shall be able to develop our own educational delivery technologies, we shall continue to be dependent on others for the technologies that we use. This is not necessarily bad, but we must learn to determine and introduce refinements that might be needed so that such technologies become more workable in our context.

8. Given the new information and communication technologies, theoretically we are no longer concerned with distance. In other words, distance is dead. Still, in the Philippines where we have to contend with the archipelagic nature of the country, it will take some time yet before we actually are able to absolutely drop physical distance as a variable in our delivery of educational services.

9. We should look forward to the day when all of our institutions are effectively interconnected electronically and working together thereby establishing a virtual university system out of all the institutions of higher education in the country. This can be easily done now, except that it will take an enormous amount of resources to do so. However, it does not mean that those interested cannot begin to experiment on possible means of putting in place a virtual university system. As far as I know, Ateneo de Manila University, De La Salle University, Mapua Institute of Technology, University of Santo Tomas, and UP have started efforts toward this direction.

10. Finally, our universities shall continue to innovate, to sustain these innovations, and to redefine thegovernance that shall be appropriate in the implementation of these innovations. In other words, we must be prepared to change continually.

I am happy to leave these ideas with you.

Thank you very much.


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## Towards Developing a Culture of Open Learning

25 February 2002

Based on statistics of the Commission on Higher Education (CHED) of the Philippines, there is an average of 500,000 youths who ought to be in college but are not. These youths are those who have completed high school and those who have dropped out from college and cannot continue studying due primarily to economic reasons.

According to estimates, there may be a similar number of professionals who wish to pursue graduate studies but cannot leave their jobs or families to pursue studies in conventional universities.

We don't have the figures, but it would be safe to say that there would be at least one million out there wishing to pursue non-formal education to improve their skills or learn new ones in order that they may become more productive in the present or future work environment.

All in all, there are approximately two million individuals, at any one time, who could be pursuing their education but are not manly because they are unable to attend conventional classroom instructions. There is a limit to the ability of conventional schools to expand their physical and human resources to service an ever increasing population of people who ought to be in school or simply want to learn new skills. There is a limit, too, to the ability and willingness of government to subsidize unlimited physical expansion of educational institutions.

The situation is not hopeless, however. It is far from being hopeless. In fact, we have excellent alternative. This alternative is open learning and distance education.

In the Philippines, the University of the Philippines Open University (UPOU) is the most advanced institution providing distance education programs and non-formal courses to Filipinos. In its seven years, UPOU has graduated some 1,600 in the areas of science and mathematics teaching, development communication, research and development management, public health, public management, and social work. More than 100 individuals have graduated from UPOU's non-formal courses on entrepreneurship, livelihood project planning and management, e-commerce, and information technology in health research.

Behind all these efforts is UPOU's vision of a culture of open learning and distance education in the country. To move towards this vision, UPOU is striving to provide quality educational services to those who are unable to pursue studies and training through the conventional mode of instructional delivery. In pursuing this mission, the UPOU is happy to note that both the media enterprise in this country, which is well represented here today, and a network of educational and training institutions here and abroad, are willing and able to support us.

I wish to cite as well the noble efforts of individuals in both government and in the private sector who have been providing scholarship grants to

deserving Filipinos who have elected to be UPOU students. Certainly, I must thank my superior, President Francisco Nemenzo, Jr. of the University of the Philippines (UP), for supporting us at UPOU in our efforts to pursue our vision, mission, goals, and programs with favorable understanding.

To seal our partnership with media and other educational institutions, therefore, we shall be signing today Memoranda of Understanding to demonstrate our determination to pursue together projects that will promote and cultivate a culture of open learning and distance in the Philippines.

Thank you.

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## UPOU at the Digital Crossroads

26 February 2003

**Introduction**

Fifteen years ago in 1988, John Naisbitt and Patricia Aburdene, in their book "Megatrends 2000," wrote:

> *The new electronic heartland will be peopled by individuals who are not location-dependent, not location-bound. They will be software writers and engineers, stock and bond traders, transcribers and transmitters, artists, composers, writers of every stripe who can do what they do anywhere and look for agreeable place to do it. Technology and information-knowledge work make it possible.*

Their forecast was to happen 10 years later in 1998 and, indeed, began to happen at the time they said it would. But at the time they made their forecast, the electronic world was still largely on analog technology. Today, we have gone digital. The pervasiveness of digital technology today is probably in the same magnitude as the pervasiveness of analog technology was when Naisbitt and Aburdene made their famous forecast.

Today, the same kinds of people described by Naisbitt and Aburdene are still the ones whose knowledge and skills are highly in demand even in this digital world. There is a group of people, however, that they failed to include. These are the instructional designers, course developers, online professors, and knowledge managers. These are the people who run distance education programs; these are the people who are destined to run open universities.

Generally speaking, digitization is a process of transforming sound and visual symbols to be compatible with computer technology. This has, for example, made it possible for us to make our media presentations through computers. At the same time, the quality of media production has improved in ways never before achieved and experienced.

Today, we are right in the midst of a digital world. This technological phenomenon enables us to design, produce, and deliver learning packages that actually engage learners through most, if not all, of their senses. Modern learning principles tell us that the more senses involved in the learning process, the better learning would be.

However, for most countries, institutions, and individuals today, the digital world is still the future. Kind of way into the future actually. But for many, including the Philippines and some Philippine educational institutions, the digital world is now knocking at the gates. For innovators like the UP Open University (UPOU), the future that is the digital age is here and has been here for sometime now. It must be because we are in this business of designing a futuristic learning environment, employing the greatest advantages of the high-end technologies that we are frequently perceived to be ahead in the exploration of the uses of digitization in the development and delivery of instructional packages and the design of learning environments.

In other words, the future is here. It has arrived ahead of schedule.

The technologies are here and available to us. The question is, how much are we into actual application of these technologies, particularly the high-end technologies? Quite candidly, we have barely scratched the surface.

For educators and knowledge managers like ourselves, there are twin issues that we must confront in the digital world.

First, the concept of e-learning. We all know that as far as UPOU is concerned, e-learning is no longer simply an idea. We are at a point where it is an actual option. The problem, however, is that it is still easier to discuss than do. The real issue is not so much the shift from the traditional physical classroom learning to online learning as it is the shift from teacher-controlled learning to learner-controlled learning (Hase & Ellis, 2001). For as long as teachers and students alike still think in terms of the traditional physical classroom instruction process, we will always have problems with pure e-learning systems. Perhaps a mix mode would be more effective for now.

Second, the concept of the digital divide. Most current discourse about the digital divide focus on the economic factors. That is, most do not have access to the technologies concerned because of economic reasons. In other words, the poor cannot afford the cost of digital technology, hence said technology simply widens the gap between the haves and the have nots.

There is a more crucial issue, however. It has something to do with the social dichotomy that we impose on our audiences or clients, if you will. Here is how Oscar Gandy (2002), an expert on digital divide issues, explains it:

> *The disregard of the needs of the audience as citizen in favour of the desires of the audience as consumer is likely to widen in what we have come to describe as the new media environment. While mainstream discourse tends to describe the new media in terms of digital convergence, I see the new media as widening the distinction between the citizen and the consumer, and for me, this is the "real digital divide."*

The audience as citizen is one who needs information and knowledge to improve his or her quality of participation in the process of social interaction, while the audience as consumer is one who has to be provided information to decide what goods to acquire for personal use, comfort, and development.

This is the nature of the environment in which we must operate today. The digital environment is something that we cannot avoid, whether we decide to take advantage of it now or at a later date.

**Use of ICTs in Education**

To be ready for and perform well in this digital environment, we must first be conversant about the fundamental issues in the effective and efficient use of the new information and communication technologies (ICTs). ICT is a collective nomenclature for the wide range of media that we use in the production and delivery of learning services. In general, by ICT we refer to the hardware and software combinations of computing, electronic media, and telecommunications.

The use of ICTs in the education sector requires that we understand the fundamental issues that influence their effective use. From my vantage point, I have identified 10 issues. I wish to highlight them, as follows:

1. *New learning paradigm*. According to Garmer and Firestone (1996), the paradigm of learning has shifted away from the traditional notion that knowledge is transferred from teacher to student within the confines of the physical classroom. This paradigm shift is telling us that we must migrate from the traditional teacher-controlled learning, which is the main feature of the conventional system, to learner-controlled learning, the framework of a highly active and participatory learning experience. This is probably the fundamental issue of the e-learning system, quite possibly the most difficult one. The paradigm change is supported by four general worldwide shifts in society that were identified by the International Council on Distance Education (ICDE) in a survey conducted in 1996. The clear shifts identified were: (a) shift from objective knowledge to constructed knowledge; (b) shift from industrial-based society to knowledge-

based society; (c) shift from universities providing instruction to universities providing learning; and (d) shift from the conventional university structure to the virtual university structure.

2. *Retooling ourselves*. To be productive in the digital world, we need to upgrade our skills accordingly. One author puts it quite explicitly, as follows: "The cognitive and psychomotor skills that we need today are quite different from those we needed just a few decades ago." As new technologies are developed, we must learn new skills that go with them. And this will go on endlessly. We must continually learn new skills to enable us to pursue our goal of providing lifelong learning experiences to our clients using the appropriate technologies of the time.

3. *Developing skills for independent learning*. Possibly one of the most important things one can do is develop the ability to seek, understand, process, store, retrieve, and use information to seek new knowledge and to solve a current problem. Skills for independent learning arise out of our ability to use current knowledge to generate new knowledge. Again, this is a continuing phenomenon that we must deal with.

4. *Fundamental difference between open learning and distance education*. These two concepts, as we all know, have different meanings; they are not the same. Open learning is a philosophy of access to educational opportunities, while distance education refers to a system of delivering educational services to the learner. Open learning applies to both the conventional and distance modes of education. We must realize, however, that we are fast moving toward an educational environment where the absolute conventional mode as well as absolute distance mode will no longer be practical. The mixed mode will be our basic operational framework. This will also highlight the fact that UPOU will be more appreciated as it is in a unique position of providing the technical expertise in distance education and e-learning that the conventional institutions largely do not have. I must point out, though, that we need to demonstrate and show those that still doubt our capabilities and potentials that we can do what we say we can do.

5. *Implications of the convergence of technologies*. Technological convergence is a basic strength and advantage of digital technology. It enables us to greatly improve mediated delivery of learning services. It also implies that we need to be creative in redesigning learning packages to fit the nuances of digital technology. A good example of this condition is the Internet, where interactivity is virtual reality so that online courses need to be designed to be highly interactive.

   In the Internet, it is not enough that we simply upload our lecture notes and modules as they appear in our print modules. We have to redesign them again to suit the strong features of the Internet as a delivery channel. For example, we can include animation and simulation as techniques so that our learners can interact with the course content itself.

   In this regard, we still have not completely realized the full potentials, and perhaps even the shortcomings and disadvantages, of the Internet in the design and delivery of learning packages for Filipinos. Another thing, we still do not completely appreciate the implications of media streaming in the design of learning materials for a people of a culture that is highly verbally oriented rather than textually oriented. And I am not referring to today's texting technology using current models of cellphones.

6. *Moving the expertise, not the expert*. Due to the inherent capabilities of ICTs, we can easily virtually rather than physically transport experts through space. This gives our students the opportunity to interact with them through mediated means rather than through physical contact, which is frequently impossible, especially when the expert, for example, is halfway around the globe. Is this advantage worth the lack of physical interaction between learner and expert? If it is, then we must look for ways of employing such strength in the design of our courses and the way we deliver them. We have begun doing this in the case of our non-formal course, Introduction of e-Commerce, whose course coordinator is based in Davao City.

7. *Technological dependence*. There are three sub-issues here. First, we must guard against

becoming prisoners of our technologies. Second, we must not sacrifice our creativity simply because we want to use a particular technology. Third, we must realize that when it comes to the hardware aspects of technology we are completely dependent on countries that produce them. In this regard, we must be able to develop software of our own. In fact, we should develop software that can be useful to others. There is not much we can do about the fact that richer countries control the hardware. Let us now, instead, develop software that others might need as they pursue lifelong learning undertakings. We are able to do this as we control content and techniques.

8. *Death of distance*. Because of the ICTs, we are able to easily transport digitized information quickly. According to experts, there have been three transport revolutions, namely: transport of goods, transport of people, and transport of information. The transport of information has great implications to education and training. It is not always possible to physically connect learners with relics of events in the past to learn history; it is not always possible to physically bring learners to different countries to experience other cultures; it is not always physically possible to bring learners to war zones to experience the agony of chaos and war. All these can be experienced right where the learner is, even if vicariously, through meaningful use of ICTs. Learning today has become location-independent, distance-independent, and even at times time-independent.

9. *Virtuality*. Virtuality is a condition that does not have physical structure; it is a condition where something that is not real becomes potentially so, according to Mantovanni (1996). It is a communication condition that makes possible the access to learning opportunities and activities originating from various education providers. This condition enables us to make our learning packages accessible and available to students and other users from various other institutions here and abroad. Indeed, we can do virtually anything in the virtual learning environment.

10. *Nature of the dance of change*. The dance of change is a conceptual framework developed by Peter Senge (2001) to put into context the challenges in sustaining the momentum of changes in learning institutions. These are the challenge of initiating innovations and transformations; the challenge of sustaining these innovations and transformations; and finally, the challenge of rethinking what we do in these learning institutions and redesigning the governance of what we do. Of these three challenges, the third is probably the most crucial for distance education institutions like UPOU. Indeed, we are having problems running an open university within the framework of a conventional university because most of the rules are either insufficient or inapplicable. For instance, we cannot be completely open because, as part of the University of the Philippines (UP) System, we must base our admission of students on their performance in an admission examination. And for those students already admitted, they must meet the requirements of maximum residence requirement or MRR, which is rather strange in open learning environments. In fact, our mantra is lifelong learning.

**Immediate Priorities for UPOU**

At this point, I wish to highlight the fact that we at UPOU are at the digital crossroads where we have to contend with three basic issues.

First, we are at the stage of development of distance education in the country where we are wading through a pedagogical gap. The main feature of this pedagogical gap is the reluctant acceptance of distance education by higher education administrators as an alternative system of delivering quality education services in the country.

Second, we have to contend with a technological gap. One thing is sure though: many institutions and experts cannot seem to have enough of the gadgetry involved. Unfortunately, either we cannot afford it or our students do not have access to it. So we must use technology to the extent that it is available to our clients at reasonable cost. We must, however, go on and determine for ourselves what we can do with what technological ware we have access to, immediately affordable or otherwise.

Third, and possibly the most crucial issue, we have to deal squarely with the fact that it is difficult to migrate from teacher-controlled learning to

learner-controlled learning. We cannot overcome this anomaly overnight but as we try to solve it, let us further quicken our pace in migrating from the traditional learning within the physical confines of the classroom to learning online.

This brings me to what I have listed here as immediate priorities of UPOU. I must, however, provide a preamble to these priority projects. To the extent possible, given our institutional resources and work environment, I would like to see the following happen during the next 12 months.

Why 12 months? Well, as Winston Churchill told England's House of Commons on 27 February 1945, 58 years ago tomorrow, as the Second World War was shaking England, "It is a mistake to look too far ahead. Only one link in the chain of destiny can be handled at a time." We are not trying to be like England and I am light years from being Churchill. All this means, however, is that I do not intend to make plans for the next Chancellor. I have only 12 months remaining in my term. In any case, we cannot afford to plan too far into the future in the digital age where crucial changes happen practically every month. I have identified six projects that I wish for us to undertake, as follows:

1. *Redesign and offer fully online at least one formal course in each Faculty during the period, and improve the quality of our online tutorials*. It is the Faculty's choice what course from which program to transform for online delivery. Our target clientele should be both Filipinos and non-Filipinos here and abroad. I must, however, point out that I have also received e-mail messages complaining about how some of our online tutorials are conducted. It is my hope that we resolve quickly whatever problems there might be with our online courses and tutorials. I call on the Faculties and the Online Teaching and Learning Laboratory (ONTELL) to pursue these targets immediately.

2. *We must now complete the design and implement our online transactions for application, registration, payment, and document access*. We can pursue more quickly our plans of offering our courses internationally if we have these online services in place. We have discussed these long enough so we must now put them in place. As an open university, UPOU must be able to provide online services to its clients. Our digital environment makes this possible. I call on the Office of the University Registrar (OUR), the Office of the Vice Chancellor for Finance and Administration (OVCFA), and the Office of the Vice Chancellor for Research and Development (OVCRD) to work together on this right away.

3. *We must greatly improve on our capability to conduct videoconferencing services*. At present, we have access to a videoconferencing facility—the Philippine Research, Education and Government Information Network (PREGINET)—but this is still limited in view of UPOU's purposes because the network does not have nodes in all of our learning centers. It is naturally expected, therefore, that we continue our efforts to eventually be able to put in place an Internet-based videoconferencing system to which our learning centers may be connected. It is probably not too unreasonable to expect that we can do this for our Los Baños, Diliman, and Manila learning centers during the next 12 months. Let us start with a simple mechanism by simply adding another gadget, the webcam, and test how it works and improve on this system later on. I call on the OVCRD, the Office of the Vice Chancellor for Student Support Services (OVCSSS), the OVCFA, and the Budget Office to work on this right away.

4. It was in 1984 when I first described in a seminar on communication technologies at the Ateneode Manila University how I had wanted to access library materials from remote sources while in my office. I articulated this again in a paper submitted to the UP Faculty Conference in Tagaytay in 1987. I wrote then that if I needed materials from the UPLB Library, I should have been able to do computer search from my office at the then Institute of Development Communication. If the UP Los Baños Library did not have the materials I needed, it should have had the capability to link me to the UP Diliman Library or the Ateneo de Manila University Library so that I could continue my computer search. If I had found the material at the Ateneo Library, for example, I should have been able to access such material and downloaded it in my office.

   Since 1984, however, I have realized that this is not as easy as it sounds. There are intellectual

property rights (IPR) issues involved. However, access to titles of library holdings is now possible.

*Let us now complete and strengthen the digitization program of the UPOU Library to include in its computerized access system all that may be available in its collection, including all our courses, both formal and non-formal*. Over and above this, we must drastically increase our library holdings of the latest publications in open learning and distance education as well as general disciplinary references. I call on the University Library, the Office of Academic Support and Instructional Services (OASIS), and the Office of the Vice Chancellor for Academic affairs (OVCAA) to quicken the pace of this project.

5. *We must now go into the full-blown design and production of multimedia materials for use both by UPOU and other educational institutions in the Philippines*. This is the reason for the plan to establish a Multimedia Center, which shall comprise the Audio-Video Teaching and Learning Laboratory (AVTELL) and part of ONTELL. It shall be the Multimedia Center's responsibility to digitize our materials and store them on CD-ROMs so that they will be more accessible to more users. UPOU must not only be perceived but actually be a publisher and producer of high-quality instructional packages.

   I wish to highlight that part of our multimedia program shall be to continue the broadcast of "*Wats UP sa Barangay*." While this is a project under the auspices of the UPOU Foundation specifically for the Certificate in Barangay Administration program for now, the intention really is to provide a television venue for our courses, be they formal or non-formal. Eventually, the airtime will become some kind of a generic airtime for UPOU. There may have been lapses in planning prior to the start of the broadcasts of *Wats UP sa Barangay*, but this should not deter us from continuing with the effort. My gut feel tells me that this television program will eventually make our institution and courses popular to a wider range of audiences and potential students. It is also a great potential source of revenue for us.

   To this end, therefore, we shall complete the television studio here at the UPOU Headquarters so that we improve our video streaming capability. I call on the AVTELL to work on this immediately.

   On and off, I have mentioned UPOU as being the publisher of high-quality books and producer of high-quality multimedia materials in the Philippines, much like the UKOU in the United Kingdom. We must pursue this, and I call on the OASIS to spearhead this gargantuan effort and begin right away to finalize the books that can be mass-produced and have them published and put on sale nationally.

   Those that have been launched today and in the past must now be placed on national sale. The potential readers of our publications are not coming to us fast enough. Let us bring our publications to them instead. I call on the Public Information Office and the OVCRD to work out a sales plan to dispose of as many books as possible during the next 12 months.

6. *We must now embark on the design and production of online courses that shall be highly interactive*. Interactive course materials are important because, as Dr. Lolit Suplido said in her foreword to Dr. Maritess Khanser's book, it is important that "students are engaged by course materials..." We, therefore, expect our faculty members to experiment on specific techniques in designing highly interactive courses. This is the reason why we shall organize the Online Course Development Laboratory (OCDL), which shall comprise some components of ONTELL devoted to online course development experimentation. I happen to believe that we must have a facility, no matter how small and limited in resources, where our faculty can conduct their own experiments in the design of interactive course materials. I call on the ONTELL and the Faculties to start work on this. I must emphasize here that our full-time faculty members must get involved actively in this undertaking. I leave it to the deans to determine how this may be operationalized. Perhaps the courses you shall identify to be transformed into online courses should also be the ones to be designed to be highly interactive at the same time.

I am now calling on all UPOU units concerned to submit your detailed plans of action on these

projects by end of April 2003 so that we can include them in UPOU's work plan under our mandate as CHED's Center of Excellence for Open Learning and Distance Education. On the basis of this short-term plan of action, we shall also try to generate additional resources to make them work.

We need to do a lot more, but we have just 12 months to do these. I am certain, however, that other interests and directions shall be pursued beyond my term as Chancellor.

May I, therefore, call upon all the constituencies of UPOU to join me, and together, let us put these things in place so that our UPOU can indeed bring itself, as Center of Excellence in Open Learning and Distance Education, to new heights of achievements in the digital age. Let us begin work. We do not need to wait for the formal organization of the Multimedia Center and the Online Course Development Laboratory to begin work. Let us work within the framework of a virtual organization.

Thank you.


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## Potentials of Distance Learning in a Modernizing Philippine Agriculture

8 May 2003

### Introduction

It is said that education is the great equalizer. This may be correct to the extent that it is easily accessible. Until such time that the individual has easy access to educational services within his/her means, education will remain simply as an idea for people empowerment. Access to education through the conventional norm—that is, through the existing institutions of learning that require attendance in formal face-to-face classes—remains very difficult for the majority of people anywhere.

The increasing population necessarily increases the number of people that must be educated. However, this is not matched by increases in the allotments for educational expenditures and physical expansion of schools. There is a limit to what the government is able to provide in terms of funding. In fact, the Philippine government is reducing subsidy for higher education. As well, there is a limit to the ability of schools to expand their physical resources and facilities to accommodate an ever increasing student population. There is, therefore, a need to introduce alternative means of delivering educational services to reach people at their current levels of aspirations and understanding. The alternative that has been tested and is being implemented worldwide is continuing education through distance learning.

### Why Distance Learning?

Simply put, distance learning is a means of providing more accessible learning opportunities and services for the traditionally underserved sectors of society outside ofthe conventional four walls of the classroom It is bringing education right to the doorsteps of the learners rich or poor, in a manner that they may access learning materials at their own pace and time without having to meet physically their teacher in a specified place like a classroom.

Distance learning is the direction towards which educational and training institutions are moving today. This has been greatly enhanced by the new learning paradigm. “The paradigm of learning,” said Garmer and Firestone (1996), “is shifting away from the traditional notion that ‘knowledge’ is transferred from teacher to student within the confines of the classroom.” In an international survey conducted by the International Council on Distance Education (ICDE) in 1995, four very clear signs of the shift in learning paradigm were discovered: (1) shift from objective knowledge to constructed knowledge, (2) shift from an industrial-based society to a knowledge-based society, (3) shift in missions of universities from that of providing instruction to providing learning, and (4) shift from the traditional physical structure of universities models to virtual learning structures.

The “virtual” learning structure refers invariably to the various ways in which educational materials

and services may be delivered to learners outside of the confines of the traditional face-to-face classroom lectures (Librero, 2001). This is the realm of distance learning. Through this mechanism, we are able to reach out to a much larger audience, the traditionally underserved sectors of society.

One of these traditionally underserved sectors that have not received sufficient continuing education support services appropriate for a modernizing system is the agriculture sector, possibly because it is presumed to be concerned only about the rural areas. Educational services that reach this sector are limited and do not spread wide enough to significantly benefit the affected population

There is, therefore, a need to hasten delivery of educational services, particularly among researchers, extensionists, and farmers in order that agriculture in the country may be modernized.

**Providing Distance Education Programs to Modernize Philippine Agriculture**

There are two ways in which we can make educational services more accessible to agriculture workers in the country. These may be in the form of continuing education or formal education towards earning degree programs.

For those interested in gaining new and additional skills that will enable them to be more productive in their present work environment, continuing education through nonformal courses may be the quickest way. For most, non-formal courses would probably be more appropriate. This will be in line with the efforts of the Department of Agriculture to provide more skills to its researchers, extensionists, and farmers so that they can be more effective and productive partners in the agricultural development process.

For those interested to pursue formal education, particularly post-baccalaureate degrees, formal degree programs are currently offered by various educational institutions, such as the UP Open University (UPOU).

**Distributed Distance Learning: National Learning Network for the Agriculture Sector**

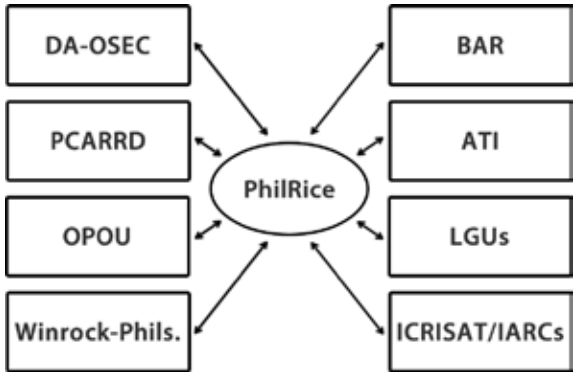
Concept of distributed distance learning. A phenomenon in education circles that surfaced in the last decade is the concept of distributed learning (Oblinger & Maruyama, n.d.; Dede, 1997; Wilson & Ryder, 1998). Saltzberg and Polyson (2001) described distributed learning in a paper originally published in 1995. The concept of distributed learning is not a replacement for distance learning. Rather, it is a system based on the concept of distributed resources. Their definition is:

Distributed learning is an instructional model that allows instructor, students, and content to be located in different, non-centralized locations so that instruction and learning occur independent of time and place. The distributed learning model can be used in combination with traditional classroom-based courses, with traditional distance learning courses, or it can be used to create wholly virtual classrooms.

Any effort at developing a distance learning program for the agriculture sector must have support from participating agencies. This being the case, we have to go beyond distance education per se because we have to be concerned about the multiplicity of sources of learning materials. This paper is, therefore, proposing a design for a distributed distance learning system to which each participating agency must contribute non-formal courses and/or appropriate components of a curriculum for a degree program.

Basic configuration of the distributed distance learning network. It is suggested that the distributed distance learning network (DDLN) be a consortium composed, at least, of the agencies represented in this workshop, as follows: Department of Agriculture-Office of the Secretary (DA-OSEC); Philippine Rice Research Institute (PhilRice); DA-Bureau of Agricultural Research (BAR); Philippine Council of Agriculture, Forestry and Natural Resources Research and Development (PCARRD); DA-Agricultural Training Institute (ATI); UPOU; local government units (LGUs); Winrock Philippines; International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)/International Agriculture Research Centres (IARCs).

The central coordinating body of the consortium (and DDLN) shall be based at PhilRice and the Coordinator shall be a PhilRice official. The configuration of the consortium will look like the following:




The PhilRice shall be Clearinghouse and Coordinator on top of being content provider, while the participating agencies shall be responsible for content, course development, and course delivery. Courses offered by any of the participating institutions shall be promoted by the PhilRice and DA. Furthermore, it shall be the PhilRice that shall officially invite participants to enroll in the courses offered through the distributed distance learning network.

**Basic Mechanism**

Under the consortium, each participating agency shall perform specific tasks and functions specified in an earlier document provided during the Convenors' meeting at BAR on 10 April 2003, with some modifications, as follows:

DA-OSEC
- Provide strategic management to the DDLN
- Institute policies, especially in linking the DDLN's strategic alliance
- Identify priority thrusts of the DDLN
- Fund participating organizations in the DDLN

PhilRice
- Coordinate and serve as the Secretariat of the DDLN
- Lead the development, testing, production and evaluation of courseware on rice and rice-based farming systems
- Establish, manage, and maintain the network's central hub
- Make available, equip, and train its R&D network to serve as learning hubs for the DDLN
- Fund the Secretariat and basic operations of the DDLN

BAR
- Make available, equip, and train Regional Integrated Agricultural Research Centers (RIARCs) to serve as learning hubs for the DDLN
- Collate mature technologies for courseware development
- Fund courseware development
- Establish a scholarship fund for degree/non-degree programs in agriculture by UPOU and selected state universities and colleges (SUCs)

PCARRD
- Make available, equip, and train its Farmers Information and Technology Services (FITS) to serve as learning hubs for the DDLN
- Collate mature technologies for courseware development
- Develop, test, produce, and evaluate courseware
- Fund module/courseware development

ATI
- Make available, equip, and train selected centers to serve as learning hubs for the DDLN
- Adapt, test, and evaluate courseware

UPOU
- Offer degree/non-degree programs in the distance mode
- Train course developers for the DDLN
- Supervise course development efforts by participating agencies
- Review learning packages for standardization and quality control
- Provide technical assistance in courseware development, testing, and evaluation
- Evaluate, test, and adapt existing courseware
- Serve as testing center and learning hub for the DDLN

LGUs
- Select and partially fund participants (extension staff and farmers) for the learning programs of the DDLN
- Help provide advisory services in the DDLN's learning centers

- Assist in the adaptation of courseware
- Assist in monitoring and evaluating the DDLN's programs at the barangay level

Winrock-Philippines
- Assist in resource mobilization, especially with international donors
- Provide technical assistance in courseware development
- Offer scholarships for degree programs (distance mode)

ICRISAT/IARCs
- Assist in the establishment and organization of the DDLN
- Provide technical assistance on information and communication technology-enabled distance learning
- Train core staff of the DDLN
- Share relevant courseware
- Link the DDLN to Consultative Group on International Agricultural Research (CGIAR) and other distance learning programs and networks or international organizations

**Delivery Mechanisms**

There are two models that can be adopted for purposes of delivering courses under the auspices of the Consortium or DDLN:

1. *Print-based delivery system*. The course material is in the form of printed modules, which may be distributed to participants of a course. The corresponding tutorials that go with the printed modules shall be conducted at the participating institutions. A Consortium Tutor shall conduct the tutorials, and the course shall be coordinated by a PhilRice-appointed trainer-in-charge who may be based at any of the Consortium member-institutions.

   A variation is that the tutorials may be conducted through the Internet, in which case, particular courses, even using printed modules or CD-ROMs, shall be considered partially offered online because the tutorials are undertaken or offered online.

2. *Internet-based delivery system*. The course materials may be accessed online and could be downloaded and, therefore, would constitute a printed module. Tutorials shall be conducted online as well. In other words, the bulk of the training tasks shall be undertaken online. Under this situation, the role of the participating institution is simply to offer the course and manage its offering through the Internet. The participating institution offers the course under the auspices of the DDLN.

**That Said...**

Now, I do not wish to shoot down the idea of educating our researchers, extensionists, and farmers through the Internet. This is, in fact, a grand idea. Still, I have some words of caution:

1. What we are intending to do is in the realm of e-learning, which is good since this runs right smack into the strategy of government to promote participation and development through e-learning. I wish to clarify though that e-learning is not undertaken only through the Internet. Doing it through the Internet, however, would be fantastic if we are able to sustain it. The problem with this focus is that the Internet penetration in the Philippines is only about 3 percent, and most of our agricultural researchers and extension workers do not have easy access to the Internet. And the farmers? Your guess is probably as good as mine. We may need to settle down with a more appropriate technology, such as CD-ROMs, or even open broadcast TV or radio. Whenever a specific technology is affordable and accessible, we use such technology. But let us not insist on putting in place a high-tech infrastructure (simply because there is some possible source of funding) that we may not be able to sustain over time, and will even be useless relative to our objectives.

2. There may be a need to pilot test our learning packages and delivery mechanisms before we go large scale. The use of modern technologies in the delivery of educational services is not exactly cheap and easy. There are a lot of support services that must first be put in place. Remember, we are asking people to study—which is, by all accounts, normally difficult for most distance learners. On top of this, we may be asking people to use technologies toward which they may have natural aversion to begin with. In other words, let us, from the beginning, understand that there are a whole lot of possible reasons to fail. And let us prepare for such an eventuality.

3. Distance learning, to be sure, is much easier to talk about than to do. That is to say, we find it easy to talk about teaching others through the distance mode, but we must realize that it is they who must do the learning. On the whole, it will be easy for us who are providing the learning services but difficult for those whom we expect to learn. We must therefore provide enough motivation to get those we expect to benefit from this educational endeavor to actively participate on their own volition. This is not going to be a picnic for them and for us.

4. Distance learning operates under a different learning paradigm—that which focuses on learner-centered learning rather than teacher-centered learning. Put simply, those who still cannot veer away from the traditional notion that the teacher must teach and the student must learn within the confines of a physical classroom need not participate as course developers because they will not be able to prepare learning packages fit for a distance learner. Those expecting to be trained to be course developers must commit to the notion that the learners shall learn on their own and the teachers shall simply facilitate the learning process.

5. Finally, distance learning is technologically driven and technology-intensive, and can be completely independent of the physical presence of teachers. As a result, it is largely undertaken independently by an individual who invariably feels lonely studying alone. We must therefore design our courses and delivery system to be highly interactive and promote active participation by the learners themselves.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## Continuity in Breaking New Frontiers for Education in The Philippines: A Three-Year Plan of Action for the UP Open University

January 2004

The fundamental basis for this plan of action is the need for continuity in the development plans and operations of the UP Open University (UPOU). The current vision and goals of UPOU, which were put in place six years ago, continue to be relevant and appropriate and, therefore, must be continued. The UPOU strategic plan, which has been the foundation of the university's operations in the last six years, remains sound and realizable. In fact, such strategic plan was formulated and intended for the period until 2008.

As I did in my first term as Chancellor, I shall follow the same vision, mission, goals, and values in a second term should I be given that opportunity. All these are expressed in a manner that make them timeless and always relevant and necessary. There simply is no need to alter them unless the educational environment has drastically changed. All that is needed is a refinement of how these may be operationalized.

This is what this paper is all about. First, let me restate what the present vision, mission, goals, and values are of UPOU. Then, I shall present what we have been able to put in place in the past three years. Finally, I shall outline how we intend to refine our operationalization of the vision, mission, goals, and values of UPOU in the next three years.

**Vision**

UPOU shall be at the forefront of the knowledge society as a leading institution of open learning and distance education.

**Mission**

Adhering to the philosophy of open learning and distance education, UPOU shall:

1. Create dynamic, innovative, alternative learning environments, technologies, and opportunities that shall draw out the full potential of learners;
2. Reach out to a wide spectrum of learners; and
3. Contribute to the upgrading of the quality of education in the country.

**Goals**

The goals of UPOU are to:

1. Offer degree and non-degree programs, through open and distance learning, that are responsive to the needs of the learners and the society of which they are a part;

2. Develop a system of continuing education to sustain professional growth and promote lifelong learning;

3. Develop and adapt delivery systems appropriate to the distance learner;

4. Provide leadership in the development of open learning and distance education expertise

in the country in the appropriate use of information and communication technologies for education; and

5. Make instructional packages accessible to various publics through collaborative arrangements, institutional agreements, and other appropriate mechanisms.

**Values**

UPOU shall uphold the following values:

*Excellence*. UPOU shall promote academic excellence as it adheres to UP's standards. The value of excellence, likewise, shall permeate all aspects of UPOU's entire operations and shall be manifested in the performance of its staff.

*Equity*. UPOU affirms its open access policy in terms of student admissions, but shall maintain the rigors of learning in producing quality graduates. The value of equity shall likewise be observed in the fair practice of recognition and reward for performance.

*Efficiency*. UPOU is committed to the efficient delivery of its services to its various clientele. The value of internal efficiency shall be translated to optimum use of resources in the operations of the university.

*Humanism*. UPOU shall uphold the primacy of human concerns over the use of technology as a means of achieving its goals. The value of humanism shall also be expressed in terms of the university's concern for the well-being of its personnel.

**Achievements of the Past Three Years**

The achievements of the UPOU in the past three years may be categorized according to six operational groupings, as follows: programs, delivery system, student support services, human resources development, institutional linkages, and governance. A detailed discussion of all the items listed here, including other additional outputs, will be available in the "End of Term Report" of the Chancellor, which is under preparation.

*Programs*

1. Completed the development of courses under the Master of Information Systems (MIS) program.

2. Developed and began offering the following non-formal courses:
   - Online Teaching and Learning
   - Introduction to e-Commerce
   - Information Technology in Health Research
   - Certificate in Barangay Administration

3. Developed and offered training courses in computer and Internet skills development, flash animation, video production, and photography.

4. Revised the Master of Arts in Education (MAEd) program (Language Studies component), and together with the MIS, offered it as pilot degree programs for the human resources development program of the Commission on Higher Education (CHED).

5. Conceptualized and began implementing the Graduate Education Enrichment Program (GEEP) where graduate students of other higher education institutions (HEIs) are allowed to cross register at UPOU for courses designed to strengthen their graduate study programs in their respective universities. This program has been endorsed by CHED.

6. Established a continuing education program as a major undertaking of UPOU to coordinate the conceptualization, planning, and implementation of non-formal courses and programs as resources generation activities.

7. Graduated the first batch of PhDs.

**Delivery System**

The fundamental model for the delivery of instruction at UPOU has been in place from the very beginning. Improvements, however, were introduced in the past three years. Among these are:

1. The information and communication technology (ICT) support is being greatly improved with the increase in bandwidth from 256kbps provided by Pacific Net to 512kbps through an agreement with the Philippine Research, Education and Government Information Network (PREGINET). Even the Institute of Plant Breeding of the University

of the Philippines Los Baños (UPLB) has opted to link up with UPOU due to this higher bandwidth capability. Some bugs, however, need to be fixed, and PREGINET is doing this now.

2. During the period under review, the following new books were published and are now on sale:
   - Social, Economic and Political Thought: A Study Guide
   - The Psychology of Reading
   - College Algebra, Volumes 1 and 2
   - Aquatic Ecosystems
   - Computer Education 1: Introduction to Basic Computing
   - Speech Communication
   - Literature and Society
   - Biology: A study guide
   - Introduction to Economics
   - Introduction to Development Communication (a co-publication with the Southeast Asian Regional Center for Graduate Study and Research in Agriculture or SEARCA)

3. A one-season television program was broadcast on Channel 9 every Saturday to promote the programs of UPOU and test the courses under the Certificate in Barangay Administration program. As a result of an evaluation of this program, refinements shall be introduced and a generic television program shall be conceptualized and launched.

4. UPOU redesigned Southeast Asian Fisheries Development Center (SEAFDEC) courses for online delivery on a regional scope under an agreement with SEAFDEC.

5. A number of publications in conventional and electronic publications were authored by UPOU faculty and staff. Four were recipients of the UP System's International Publications Award.

*Student Support Services*

Student support services were further strengthened with the introduction of the following innovations:

1. Online tutorials. This has become standard for all courses, and students have been looking forward to it each semester.

2. Online registration. This is being regularized after pilot testing.

3. The use of credit card in transacting financial business with UPOU has been introduced and the UP System is waiting to see if it works before implementing it system-wide.

4. Digitization of student records has been initiated.

5. The library now has online service where students may search materials online and request for hard copies of materials they need in their courses through the learning centers.

6. The UPOU Library has initiated and continues to digitize its holdings, particularly those produced by UPOU, such as instructional modules and papers written by UPOU personnel.

*Human Resources Development*

1. We have continued to support the faculty and staff in their efforts to earn advanced academic degrees. During the period, two have completed their PhDs and one completed her MS. Four are continuing their PhD programs, while 10 are working on their respective MS degrees.

2. With assistance from UPOU, more than 20 faculty and Research, Extension and Professional Staff (REPS) attended international and national conferences, while more than 30 administrative staff participated in national seminars, workshops, and conferences.

3. More than 20 in-house seminars and workshops were conducted for both UPOU faculty and staff as well as from other UP units.

4. In 2002, one faculty member was a recipient of the UP System's international publications award program, while in 2003 three were recipients of said award.

*Institutional Linkages*

The following are the new institutional linkages established:

1. UPOU was designated as the Academic Focal Point for the Philippines (AFP) under the ASEAN Virtual Institute of Science and Technology (AVIST) under the auspices of ASEAN's Committee on Science and Technology. As AFP, UPOU shall lead in the development and offering of professional development courses to be offered in the distance education mode for science and technology (S&T) personnel in the ASEAN region.

2. UPOU was designated by the Information Technology and E-Commerce Council (ITECC) of the Philippines as its e-Learning Competency Center.

3. UPOU co-organized the first two national e-learning conferences.

4. UPOU conducted seven regional seminars on distance education as part of its mandate as CHED's center of excellence for open learning and distance education.

5. UPOU entered into an agreement with the International Plant Genetic Resources Institute (IPGRI) to develop courses in plant genetic resources to be offered to PGR scientists in the Asia-Pacific and Oceania regions. The first course now being developed is Law and Management of PGR Resources, and shall also be offered under the auspices of AVIST for the ASEAN region.

6. UPOU was re-elected to the Executive Board of the Asian Association of Open Universities (AAOU). We are hoping for a third term.

7. The UPOU Chancellor was appointed by the Southeast Asian Ministers of Education Organization (SEAMEO) to a three-year term as member, representing the Philippines, in the Governing Board of the SEAMEO Regional Center for Open Learning (SEAMEOLEC) based in Jakarta.

8. UPOU entered into a long-term, project-based agreement with the Foundation for Information Technology Education Development (FITED) for the training of teachers nationwide in the use of computers and the Internet in education. So far, UPOU has trained more than a thousand teachers nationwide under this project.

9. During the period under review, UPOU faculty and REPS presented 32 papers in international conferences and 35 in national conferences. This has significantly enhanced the influence of UPOU in the field of distance education in the region.

*Governance*

The single most important initiative in governance in the past three years was the reorganization of UPOU. From a top-heavy structure, UPOU has been streamlined and all related functions have been consolidated to ensure efficiency of operations.

The main features of the reorganization are the following:

1. All staff functions related to academic matters have been consolidated and placed under the direct supervision of the Vice Chancellor for Academic Affairs, and all staff functions related to pure administration were placed under the direct supervision of the Vice Chancellor for Finance and Administration. Therefore, there are now only two vice chancellors.

2. The five original Faculties have been realigned into three Faculties: Faculty of Education (FEd), Faculty of Information and Communication Studies (FICS), and Faculty of Management and Development Studies (FMDS). This was done in order to highlight the areas wherein UPOU has claimed expertise—in the technology-oriented fields rather than in the basic sciences where it does not have its own pool of expertise. This was deemed necessary to ensure UPOU's role in the development and offering of academic degree programs in the UP System. UPOU is acknowledged by the UP System as its own center of excellence in open learning and distance education as well as in the development and production of instructional packages that the other constituent universities can use in their programs.

3. The reorganization has also provided the opportunity to establish the following

important units:

- Multimedia Center
- Office of the Legal Counsel
- Management and Information Systems Office

4. The functions of student support services are now the primary concern under the supervision of the Vice Chancellor for Academic Affairs and there are mechanisms under this office that shall focus on these functions. Coordination of student support services, particularly that which deals with the operations of the learning centers, is an important collective function and, as such, has been strengthened through more appropriate consolidated structure and supervision. As well, the functions of research coordination and continuing education coordination are lodged with the OVCAA. Appropriate structures within the OVCAA have been provided to handle the requirements of this shift in functions.

5. The Office of the Faculty Dean has been strengthened to include functions related to academic program development, faculty and tutor recruitment and training, student records, coordination of tutorials, standard student-oriented activities, conduct of faculty and staff research, academic program promotion, and conceptualization, marketing and implementation of continuing education courses.

*Scheduled for Launching in February 2004*

During the 9th anniversary of UPOU in February 2004, the following undertakings shall be launched:

1. Multimedia Center, as the main unit of UPOU responsible for the mass production of multimedia instructional packages for use not only by UPOU but by other HEIs in the Philippines. It shall be operated as a business enterprise to design and produce educational materials for other institutions for a fee. Part of this will be the launching of UPOU as the "eLearning Competency Center" of the Philippines' Information Technology and eCommerce Council (ITECC).

2. UPOU Research Monograph, an annual peer-reviewed research publication as an outlet for research done by UPOU faculty and staff.

3. Launching of books published by UPOU in the past year, including launching of the first book co-published by UPOU and SEARCA under an omnibus Memorandum of Understanding.

4. Launching of UPOU's increased bandwidth (from 256 kbps to 512 kbps) through a formal connection with the PREGINET backbone to connect learning centers and make possible a two-way video conferencing for both program delivery and management purposes.

5. Online registration for degree programs, to facilitate registration of incoming students, particularly those based in other countries.

6. UPOU 700. This is a UPOU-SMART Information Dissemination Program, a nationwide program to provide basic information on UPOU and its academic programs and operations through text messaging in collaboration with SMART Communications, Inc. This same system shall also provide feedback mechanism through which UPOU students may directly communicate with the Office of the University Registrar and other offices of UPOU using SMS technology.

7. Launching of a daily segment of the program "*RadyoBalita*" of Radyo Filipinas, the overseas service of the Philippine Broadcasting Service titled "*Mula sa* UP Open University." This shall provide news and information on distance education in the Philippines and UPOU for Ovserseas Filipino Workers (OFWs).

8. Mobile Learning (m-Learning) system as a means of providing learning assistance in various fields (e.g., English, health, culture, values) to learners nationwide.

**Plans for the Next Three Years**

The following are priority major undertakings to be pursued during the next three years:

*Academic Programs*

The following graduate programs shall be developed:

Master in Educational Technology
Master in Distance Education
Master in Multimedia Studies
Graduate Certificate of Diploma in Education

The Diploma in Research and Development Management shall be upgraded to a Master's degree program.

We shall also begin to conceptualize a PhD in Multimedia Studies. It is the powers of disciplinary convergence and capacity for interactivity that this emerging discipline makes itself an appropriate growth point for UPOU.

Undergraduate programs to be pursued shall include the following:

Bachelor of Arts in Multimedia Studies
Bachelor of Management

Non-formal programs and courses shall be developed and offered in areas that shall be determined through comprehensive needs analysis to be undertaken by the different Faculties. As well, we shall carry such courses as may be accredited by the AVIST, UPOU being the Academic Focal Point of AVIST in the Philippines.

*Delivery Systems*

The following shall be undertaken:

1. Increase to at least 30 the number of courses to be redesigned to be highly interactive, stored in CD-ROM format and offered fully online.

2. Provide at least one or two online tutorial sections for each course offered every semester.

3. Establish a mechanism to provide radio broadcast support for courses offered each semester.

4. Launch an m-Learning (mobile learning) system.

5. Strengthen UPOU's capability in audio and videoconferencing through its access to the PREGINET network and enhance delivery of course materials and interaction between faculty and students.

*Student Support Services*

Digitization of student records and documents shall be completed within the next 12 months, and business transactions shall be fully electronic within the next 24 months. Among the features of this project are the following:

1. Students shall be offered a one-stop-shop mechanism through improved online services such as in enrollment, registration, payment of fees, access to semestral programs, and course materials.

2. A mechanism shall be put in place to make transcript of records of graduating students available on the day of graduation.

3. The alumni shall be co-opted to participate actively in the promotion of UPOU programs and operations in the effort to increase enrollment, as well as in the generation of resources. At the same time, worthwhile university activities shall be put in place for the benefit of alumni interested in continuing education.

4. By Academic Year 2005, the incremental increase in the number of incoming (new) students shall be about 500 every first semester.

*Human Resources Development*

The following shall be pursued:

1. Continue strengthening the distance education competency of staff by increasing opportunities for in-house seminars and workshops and participation in external seminars and conferences.

2. Maintain top-caliber faculty through further training and advanced studies, both in the conventional and distance modes.

3. Prepare and implement a manpower development plan indicating professional development paths for each faculty member and staff according the to the program development directions of the university.

*Institutional Linkages*

In the next three years….

1. At least 10 UPOU faculty and staff shall present papers each year in national and international conferences, seminars, and workshops.

2. UPOU shall continue to conduct regional seminars on recent developments in open learning and distance education for the benefit of higher education institutions in the Philippines.

3. UPOU shall continue to conduct special training courses in writing for distance education, e-Learning, as well as in the use of ICT in instruction.

4. Increased efforts shall be made in strengthening current linkages with open universities and other institutions worldwide, as well as opening up new linkages. Specifically, UPOU shall continue to be active in the affairs of the Asian Association of Open Universities and the SEAMEO Regional Center for Open learning.

5. As the Academic Focal Point in the Philippines for the ASEAN Virtual Institute of Science and Technology (AVIST), UPOU shall increase efforts in the development and offering of both formal and non-formal courses and programs for S&T researchers in the ASEAN region.

6. UPOU shall pursue more vigorously its partnership with IPGRI in developing appropriate courses for researchers to be offered in the distance mode.

7. UPOU shall exert more effort in the promotion of the Graduate Education Enhancement Program so that more graduate students from more universities and colleges in the Philippines may have access to UPOU courses.

8. UPOU shall continue to be co-organizer of the national annual e-learning conference, in collaboration with the ITECC and CHED. In this connection, as ITECC's Competency Center for e-Learning, UPOU shall continue to offer its online teaching and learning course for faculty of other HEIs. It shall continue to innovate in the areas of e-Learning and m-Learning.

9. UPOU shall continue establishing working relationships with consular offices of the Philippines abroad as well as selected organizations that can help promote UPOU programs in other countries. Specifically, working arrangements with the AWARE Foundation, specializing in the affairs of OFWs, shall be finalized to facilitate recruitment of students for both the formal and non-formal courses of UPOU and the promotion of UPOU academic degree programs among OFWs.

10. UPOU shall launch and broadcast on a continuing basis a regular segment in a specific radio program in collaboration with Radyo ng Bayan, to provide radio support for the courses and programs of UPOU.

*Governance*

1. Implement a plan of action for a more extensive use of ICTs in the management of the affairs of UPOU through proper use of audio and videoconferencing in the conduct of meetings as well as effective and efficient transmission of records and documents.

2. Strengthen the capabilities of the Management Information Systems Office (MISO) in computerization of records and documents so that data may be accessible more quickly for management purposes.

3. There shall be increased efforts in operations research for the purpose of improving the effectiveness and efficiency of UPOU as an open university.

4. There shall be increased efforts in the conduct of in-house training and seminars to enhance the skills and capabilities of faculty and staff in the conduct of their respective tasks.

5. Increasingly, full-time faculty members and REPS will be involved in the management of the affairs of UPOU.

6. UPOU will eventually be the main entry point to the UP Complex in Los Baños, hence the UP Oblation shall be erected on the UPOU rotunda near the national highway. Surrounding this famous UP marker shall be an aesthetically conceived water garden in all the four-hectare frontage of the UPOU building.

## Distance Education as Tool for Sustainable Development: a Point of View from the Fifth Discipline

2 September 2004

**Introduction**

I find the theme of this regional seminar tricky, even innocuous. It sounds so very simple and straightforward, but the more you think about it the more you get sucked into an endless debate with yourself about whether or not it is appropriate to really look at both distance and open learning as tools for sustainable development, or perhaps even be part of the problem itself. As a way out of this quagmire, I have decided to look at the issue from the point of view of the Fifth Discipline, that is, from the point of view of systems thinking in the field of management.

To begin with, I would like to explain where I am coming from and put to context my discussion of the theme and issues involved therein. In 1990, a book, considered by Harvard Business Review as one of the five most influential books on management in the last decade of the last century, was published. Its title is "The Fifth Discipline (the Art and Practice of the Learning Organization)." It was written by Peter M. Senge. Before I explain what the Fifth Discipline is, I need to mention first the four other disciplines called core disciplines. As this paper is not supposed to dwell deep into these core disciplines, let us just provide brief descriptions of what they are:

*Personal mastery*, according to Senge, is considered a discipline when we do two things: continually clarify what is important to us, and continually learn how to see current reality more clearly.

*Mental models* refer to simple generalizations such as "people are untrustworthy," or they can be complex theories such as my assumptions about why members of my family interact as they do. Mental models are active—they shape how we act. If we believe that distance education is not good enough as an educational delivery mechanism, we act differently from the way we would if we believed it is an excellent alternative delivery system. Mental models affect what we do because they affect what we see. Two people may be looking at the same physical object but see different things because they think differently or are thinking of two different things in relation to the physical object.

*Shared vision* is not simply an idea, but a force in people's hearts, a force of impressive power. It may be inspired by an idea that has become so compelling that it would acquire support of more than one individual. The idea is no longer mere abstraction; it has become "real" that it exists. Shared vision may well be the most powerful in human affairs. In its simplest form, shared vision answers the question "what do we want to create?" These are mental pictures that people throughout the organization carry in their minds and hearts. When these pictures are the same in the minds and hearts of all the people in the organization, they have a shared vision.

*Team learning* refers to the process of "aligning and developing the capacity of a team to create the results its members truly desire." It builds on the discipline of developing shared vision and personal mastery.

**Why the Fifth Discipline?**

What we are going to focus on is the Fifth Discipline. What is the Fifth Discipline? It is "systems thinking," according to Senge. He defines it as a "conceptual framework, a body of knowledge and tools that have been developed over the past fifty years, to make the full patterns clearer, and to help us see how to change them effectively."

In more practical terms, systems thinking refers to our ability to understand and explain the causal interrelationships of various entities affecting our focus of interest. In this case, since we are interested to look into the concepts of distance and open learning as tools for sustainable development, we are, therefore, interested to look at the components of development itself and the components of open and distance learning and how they affect one another. When we gain a certain level of understanding of systems theory, we are in a position to appreciate that our focus of concern that is open and distance learning influence as they are influenced by a whole lot of seemingly unrelated factors and circumstances. On second look, of course, these do have both direct and indirect relationships. For example, what decisions we make regarding our distance education programs are affected by what happens in society, and our distance education programs in return do affect society. There is always a synergistic relationship between our distance education programs and the environment within which our educational institutions operate.

**Applying the Laws of the Fifth Discipline**

Senge outlines 11 laws of the Fifth Discipline. These laws are not complex dissertations resulting from laboratory experiments, but wisdom generated from years of research and experience in the management of learning organizations. Learning organizations, Senge says, are "places where people are continuously discovering how they create their reality and how they can change it." Therefore, the concept of a learning organization is by no means limited to educational institutions. In any case, let us see how the laws of the Fifth Discipline relate to open and distance education as tools for sustainable development.

*First Law: Today's Problems Come from Yesterday's Solutions*

When there is a problem to be solved in the system, what may happen is that the solutions applied will simply relocate the problem to another part of the system. Initially, this will not be detected because the one who applied the solution is not necessarily the same person as who inherits it.

If we are to use distance education as a tool to sustain development, then we need to be very specific in terms of how we must apply distance education to solve a specific problem associated with a development target. We cannot simply apply distance education as a cure-all for our development problems. Otherwise, we may have solved a problem but it may result in second-generation problems. In formulating solutions, we must be proactive and try to predetermine potential problems and their respective potential solutions so that when the problems do appear, we would know what to do with them right away.

*Second Law: The Harder You Push, the Harder the System Pushes Back*

This phenomenon also results in what is known as the compensating feedback, which means that our well-intentioned interventions in the system will actually help the system develop a response that will tend to offset the intended benefits. What does this mean? The compensating feedback is a natural response of a system to external elements that interferes with its normal operations. In some cases, this may be explained as resistance to change, or in more positive terms, the more you are able to perform well and complete a task assigned to you within a time frame, the more you will get new assignments from your superior.

From the point of view of distance education, we could perhaps say that the more we are able to solve major problems in the delivery of quality educational services through the distance education mode, the more likely policy- and decision-makers, including society as a whole, will expect distance education as a tool to solve other development problems. Of course, distance

education alone cannot possibly solve every problem.

To improve our performance, we will actually have to increase our resource base because we cannot continue to be effective as a tool by doing increasingly more with less. For example, the more degree programs you offer, the more experts you will need to development the required courses. And this means additional resources. But our resources may not be increasing.

*Third Law: Behavior Grows Better Before It Grows Worse*

This law says that there is usually a time lag between appearance of the short-term benefit resulting from applying a solution to a problem and the appearance of the long-term disbenefit. In other words, the compensating feedback is delayed. Senge says that there are various ways of making things look better for the short-term. Eventually, however, the compensating feedback comes and we will begin seeing the negative effects of said solution.

The important thing here is the term "eventually." It may take a short time or perhaps a long time before the problem that was solved would reappear. Considering that people do transfer from one job to another quite frequently, what happens is that an individual would introduce a solution to a problem and the problem would disappear for a brief period of time. In the interim period, the individual who introduced the solution to the problem would leave the job and another would take his place. While the new individual is on the job, the old problem would most likely show up again after some years, and that person would not be aware of the history of the problem.

The solution applied to the problem would perhaps result in the disappearance of the problem itself or at least its symptoms for quite sometime, but since the solution is not likely going to be permanent, the problem would eventually reappear.

An example would clarify this idea. Many of us have experienced that often our students would not get their instructional packages on time because we have been dependent on the traditional postal service, which is not always efficient. To solve this problem, we decided to offer our courses online. Fantastic! We found that our students, largely concentrated in the urban centers, happened to have access to the Internet and so the problem of delayed delivery of instructional packages was solved quickly. Then more and more students from the rural areas where Internet penetration is very low started enrolling in droves. They would have access to the Internet only when they visit the urban centers. The sad result is that the problem of delayed delivery of instructional packages has reappeared.

*Fourth Law: The Easy Way Out Usually Leads Back In*

The easy way out is applying familiar solutions to different problems. In other words, for most of us, we stick to the solutions that we are familiar with. This is what many would say the "what-we-need-here-is-a-bigger-hammer" syndrome. Remember? If the only tool you have is a hammer, you tend to look at all problems as nails. While this approach may work for brief periods, they usually lead us right back to the original problem. And we start at square one again.

This principle points to the possibility that those who have been into distance education for too long or those unfamiliar with the nuances of distance education could mistakenly apply distance education to all training needs of personnel involved in the implementation of development programs. True, continuing education in the distance mode would certainly help, but there are certain skills that require hands-on experience and even one-on-one, face-to-face tutoring so that the right skill may be learned. Distance education is not a cure-all solution to all our development problems.

*Fifth Law: The Cure can be Worse than the Disease*

Very frequently, interventions will result in short-term solutions to problems, but eventually long-term consequences of such solutions would even be worse than the original problem. This phenomenon in systems thinking is known as "shifting the burden to the intervenor." In this situation, the term intervenor seems to refer to the solution applied to a particular problem. Applying this principle to distance education, therefore, the intervenor or solution could be online tutorial because we are unable to provide face-to-face tutorial service. Online tutorial could be subsidized

initially to include provision of hardware and access to the Internet, but this could result in greater problem especially when the learners may not have sustained access to the Internet.

*Sixth Law: Faster is Slower*

The classic story that highlights this principle is the race between the tortoise and the hare. Seeing that it has greater advantage in terms of its speed, the hare feels confident and as a result gets easily distracted by other concerns along its way. As the other concerns along the way become more interesting, the hare forgets the race altogether. The tortoise is much slower, but since it is focused all the time on the race, it eventually wins the race.

From the point of view of a business enterprise, many would want their businesses to grow quickly. In fact, the faster the growth, the better. What happens is that the businesses that grow very fast tend to diversify too quickly as well. Complex natural systems, however, intrinsically have optimal growth, which is far less than the fastest growth possible. The net effect is that the system will seek to compensate for this difference in the rate of growth by slowing down. This can be a dangerous thing.

Relating this to our theme, we can say that a quick way of providing the needed training for our workers in order to sustain quick development is through distance education. We do think of distance education as a cure-all intervention so that, whatever needed doing, the automatic decision would be to do it through distance education. Unfortunately, distance education can be viewed by non-believers, who may be important decision-makers within the system, as external intervention and their being unconvinced about the effectiveness of distance education becomes a discouragement that will permeate the entire system.

This attitude will appear in the form of lack of support from management, which would result in inappropriate implementation of training programs through distance education and, hence, slows down the training of personnel. Eventually, this results in lack of trained manpower to sustain the development programs being undertaken.

*Seventh Law: Cause and Effect are Not Closely Related in Time and Space*

The term "cause" refers to the "interaction of the underlying system that is most responsible for generating the symptoms, and which, if recognized, could lead to changes producing lasting improvement." The "effect" refers to the "obvious symptoms that indicate that there are problems." The "cause" and "effect" do not necessarily come close to each other either in time or space. In fact, in many cases the effect of a particular intervention may appear many years later when no one suspects. The added problem in this situation is that no one may even know that this was the effect of a previous solution adopted years earlier. It is also entirely possible that the effect appears in another part of the system either closely or remotely related to the system unit on which the solution was applied earlier.

While we may be almost certain that we are solving a development problem by adopting distance education principles and procedures, we may not be proactive enough to be able to anticipate the potential problems resulting from the process that would appear years later. The novelty of distance education may make it appear to development planners and implementers as a welcome catalyst for the sustained development of the masses and so full-blast implementation of distance education programs may be undertaken. However, a sudden implementation of distance education programs that are not well-planned, particularly in terms of support services, will prove to be disastrous later because, by itself, this approach to distance education would not be sustainable either. The real effects of distance education would come long after it its implementation, and the effects of lack of preparation would certainly show. By then, it would already be too late to remedy the situation.

*Eighth Law: Small Changes can Produce Big Results, but the Areas of Highest Leverage are Often the Least Obvious*

Systems thinking teaches us that the most obvious solutions frequently do not work. While they may actually seem to improve matters in the short run, they will make things worse in the long run. Of course, this is not always the case. Systems thinking, Senge observes, also shows us that the "small, well-focused actions can sometimes produce significant, enduring improvements, if they're in the right place." This is the "principle of leverage." As Senge points out, "tackling a difficult problem is often a matter of seeing where the

high leverage lies." This high leverage changes are usually not obvious to those within the system because they are not close in time and space.

If our basic problem is lack of training among our development workers, massive retraining through full-blown distance education programs may not be the right solution. Perhaps a combination of training methodologies and approaches may help. It would, in fact, help if the application of distance education techniques would be introduced gradually, say, from certain activities in face-to-face training to be undertaken online or through individual independent learning processes, to online search for training materials, to larger scale online interactions among training participants and trainers, to stand alone courses, to full-blown academic programs, and so forth.

In other words, let us do it step by step. Start small and deal with smaller problems at a time. Start big and be overwhelmed by the magnitude and complexity of the problems which we may not be ready to deal with at the time.

*Ninth Law: You can Have Your Cake and Eat It too, but Not at Once*

This law focuses on the fact that open and distance learning can be powerful tools for sustainability of overall development over time, but perhaps not immediately. In the short haul, distance education can appear to be less preferable because it requires extensive inputs, but over time such inputs will bring in benefits that can help achieve sustainability. The important point to remember is we must learn to wait. We must remember that using open and distance learning as tools for sustainable development are up front costs. They are investments in themselves.

But for us to make open learning and distance education effective tools for development, we must invest in them first by putting in place the appropriate infrastructures and procedures.

*Tenth Law: Dividing an Elephant in Half does not Produce Two Small Elephants*

Systems are more easily understood when viewed holistically rather than in parts. We recall the classic example of unclear communication when three men, all blindfolded, were asked to touch an object and describe what it was. They did not know that they were going to describe an elephant. The first touched its ears and exclaimed, "It's a large, rough thing, wide and broad, like a rug." The second person holding the elephant's trunk said, "It is straight and hallow pipe." The third person, holding unto one of its feet said, "it's mighty and firm, like a pillar." Clearly, none of the three parts described by the blindfolded men would constitute an elephant.

We tend to look at a development problem from our own areas of experience, knowledge, and expertise. If we come from the education sector, we always say that we can solve the problem through better education. The engineers would apply solutions from an engineering point of view. And so forth. Simply, it means that the viewpoint of one sector is not the entire view of a development problem. It may only be a part. We have to learn to look at development problems from their totality. We must view them holistically so that we can formulate a solution that perhaps might even include trans-disciplinary processes.

Of course, sometimes, we do not need to view the entire system to resolve specific problems. In systems thinking, this principle is called the "principle of the system boundary." This means that the interactions that need to be looked into are only those that are most important to the issue at hand, regardless of the larger picture. For example, our ultimate concern might be to place distance education at the core of urban socioeconomic development, but first we will have to determine and provide appropriate instructional delivery mechanisms and infrastructures to make our distance education effective and efficient in order that it can meet our overall expectations.

This law is difficult to practice because human organizations are designed to prevent people from seeing the important interactions that must happen to achieve sustainable development. People's views are limited by the boundaries of the system within which they operate. For example, it is not always easy for people in the education sector to appreciate fully that sometimes potential solutions originating from outside the education sector can be more significant than those that can be contributed by the education sector itself because they have not been able to view these possibilities as their exposure has largely been limited to the education sector only.

*Eleventh Law: There is no Blame*

Simply put, this law means that we tend to blame outside circumstances for our problems. In other words, there is always someone else or something else who is the culprit. Systems thinking tells us that there is no outside culprit, that we and the cause of our problems are part of a single system. The cure of our problem almost always lies in how we relate to our problem. How do we define our problem? If we define our problem carefully to include how it is that we are part of the problem, then we should not be blaming outside forces for such a problem. Consequently, we should not expect external solutions to the problem because the solution itself would be found within the system.

Again, going back to the issue of distance education for sustainable development, we find ourselves complaining about the attitude of certain unsupportive decision-makers as making it difficult to make distance education work. Instead of complaining, perhaps we should simply proceed to deal with the crucial issues that have impact of our ability to formulate distance education procedures that would work efficiently and effectively.

**Concluding Statement**

This discussion is by no means exhaustive. It is, however, an effort to highlight the possible role that systems thinking can play in our efforts to be proactive planners of distance education programs. My own personal feeling is that, indeed, the basic principles (or laws as put forth by Senge) can help us clarify the issues and potential problems that we will deal with if we adopt distance education and open learning as strategies for enhancing sustainable development.

Senge, P. M. 199). *The fifth discipline, The art and practice of the learning organization*. New York: Doubleday. 424 p.

## Distance Education in UP: Options and Directions

13 October 2004

On 23 February 2005, the UP Open University (UPOU) will celebrate its 10th anniversary as a constituent member of the University of the Philippines (UP) System. These past 10 years have been challenging, in part, because they were pioneering years for UP in the field of distance education. The initial years were particularly difficult because we were trying out a new thing and, at the same time, there was resistance to what we were doing. Some of us started with the UPLB project Science Teaching Using Distance Instruction (STUDI) and the UP Distance Education Program. We did have the technical training and some experience in the design and preparation of instructional modules for independent learners. But some who joined the UPOU when it was established were being exposed to distance education for the first time. Those years are gone and we are now much more certain of what we can and cannot do. We have developed the necessary expertise to run an open university, a distance education institution. We are also much more keenly aware of what we should be doing to be able to effectively and efficiently manage UPOU.

We have gained a lot of ground these past 10 years. For example, we have been recognized by our peers in the Asian region (UPOU served two terms on the Executive Board of the Asian Association of Open Universities, 1999-2004), designated by the Commission on Higher Education (CHED) as the National Center of Excellence for Open and Distance Education, and designated by the Information Technology and e-Commerce Council of the Philippines (now the Commission on Information and Communications Technology) as the e-Learning Competency Center of the Philippines. The UPOU Chancellor sits on the Governing Board of the Southeast Asian Ministers of Education Organization-Regional Center for Open Learning (SEAMOLEC).

We have produced instructional packages, including books, which are now being bought and used by both professors and students from UP and other universities in the country. UPOU is well on its way to being a major source of quality instructional materials, both in print and multimedia formats, for all educational institutions in the Philippines.

We have graduated more than a thousand in the fields of science teaching, mathematics teaching, public health, development communication, nursing, environmental management, research and development management, computer science, and education.

These graduates, now occupying responsible positions in education, government, and the private sectors, gained new knowledge and skills that are necessary in today's work environment. It is a unanimous observation among these graduates that being a distance learner is both challenging and satisfying; that, indeed, they have been given the opportunity to pursue advance

studies through UPOU, a university of a second chance.

However, there still is a fundamental issue that needs to be resolved—the management of UPOU. Right now, we are operating an open university within the framework of a conventional university. Unfortunately, the rules do not always apply. For instance, as an "open" institution, UPOU should not really require entrance examinations, nor should its students be subject to the MRR rule. Yet, we must apply these because we are part of the UP System.

The appropriate question at this point, I suppose, is this: Should there be a set of rules for the conventional campuses of UP and another for UPOU? Is this possible? Is it acceptable? I submit it can be possible and acceptable. But this would mean a major shift in policy regarding the basic configuration and operations of the UP System. Before this can happen, though, the UP System would have to decide first whether or not to maintain a strong presence in the field of distance education in the country. If the UP System believes that it should have a strong presence in the area of distance education in the Philippines, which it should, then it should maintain UPOU and continue to support it so that UPOU retains its leadership role in open and distance learning in the country. If, on the other hand, the UP System feels that the university would be better off not being involved in the further development of distance education in the country, then it should let UPOU go.

If the choice is the latter, then that is the end of discussion. If the choice is the former, then there are two basic issues to tackle now: Should UP continue being a multi-campus university, or should we not think of becoming a multiversity institution? The former is what exists today at UP, and this structure unfortunately is not designed to include UPOU. If the choice is for UPOU to remain with the UP System, the preferred structural model would be the multiversity model

**Towards a Multiversity System**

The UP System is comprised of seven constituent universities. For all intents and purposes, these constituent universities are "independent universities" but they belong to the same system under one Board of Regents and one president (including a set of system officials). Essentially, the UP System now has some elements of a multiversity system. While it can be argued that, other than UPOU, all the constituent universities are conventional universities, they are actually different universities because they have different thrusts and priorities, basic sciences, humanities, and the arts at UP Diliman; agricultural and life sciences at UP Los Baños; health sciences at UP Manila; fisheries and aquaculture at UP Visayas; Islamic and Mindanao studies at UP Mindanao; and Cordillera studies and math education at UP Baguio. Then, of course, UPOU is into distance education and open learning.

In effect, the UP System in its current configuration is really a multiversity system. As a multiversity system, UP may be bound by, say, a singular philosophy, a set of quality standards, and so forth. However, it may also formulate and apply different rules governing operations of the different universities, given their unique circumstances. For instance, while the six constituent universities that do not maintain distance education programs may be subject to similar rules on academic programs and operations fit for conventional universities, there ought to be another set of rules that fit the configuration and nature of open and distance education.

This concept is based on the premise that the UP is essentially a corporation and UPOU may be considered its subsidiary. As a subsidiary, therefore, UPOU can operate under specialized rules and regulations that fit its nature and requirements. At present, UPOU is more of a special case being part of a conventional university system. Other open universities around the world are stand-alone universities such as the United Kingdom Open University (UKOU), Sukhothai Thammathirat Open University (STOU) of Thailand, Indira Gandhi National Open University (IGNOU) of India, Universitas Terbuka (UT) of Indonesia, Open University (Universiti Terbuka) Malaysia (OUM), National Open University (NOU) of Taiwan, Korea National Open University (KNOU), Open University of Hongkong (OUH), and a host of other open universities worldwide.

**Maintaining Quality Standards**

The crux of all the questions and arguments against distance education is the perceived watering down of quality of instruction and

lowering of academic standards. Quality is a legitimate concern not only for the conventional campuses but for UPOU as well. We at UPOU are as concerned about maintaining the "UP standard" as anyone else within the UP System because we know we are carrying the "UP imprimatur." We were not outsiders who only recently came in with UPOU. We have been with UP since day one of our student and professional lives and we know what a UP student must go through and what it takes to be a UP professor. We also believed that there must be some alternative ways of delivering quality instruction to reach more Filipinos who seek quality education. We have never forgotten our concern for the "UP standard," but maybe we have become more innovative.

In distance education, where the paradigm must be learner-centered, the instructional materials and modules play a very significant role. You must have high-quality instructional materials if you want to maintain high-quality instruction, and academic standards Instructional materials and modules can and are prepared according to strict standards, while the quality of live lectures of different professors can vary considerably. In any case, modules and instructional materials produced by UPOU are prepared by teams called quality circles. These teams are composed of the module writer, module reader or critique, instructional designer, media specialist, and language editor. Moroever, these materials are pre-tested and improved further before they are mass-produced. Incidentally, the writers of UPOU are the same professors of UP who have undergone the module writing workshops of UPOU. Usually, these individuals write the instructional modules for the same or similar courses that they teach in their respective campuses, and as Affiliate Faculty of UPOU, they also supervise these courses when offered.

There have been comments from some administrators of UP constituent universities that their problem with UPOU is that we are co-opting as affiliate faculty and writers their "best" professors. If, indeed, we are co-opting their best as our affiliate faculty and course writers, then the more there should be no question about maintaining standards of quality at UPOU. Suffice it to say that we at UPOU are as concerned about standards as anybody else because we value being part of the UP System.

We have also put in place a system of procedures to ensure that the standards for design, preparation, and delivery of instructional materials, and assessment of learner performance are as stringent, if not more so, compared to conventional systems.

I have heard a comment from one Affiliate Professor that she has had to lower her standards in teaching distance students because they appeared to be unable to hack the subject matter if she followed her usual way of handling the course. This, sadly, is the professor's own making because this has never been the policy of UPOU. The policy has always been to maintain the UP standard in everything that we do. I wish to point out as well that it is not always a question of the student being unable to cope with the standard of instruction that is the problem. Sometimes, the problem is more a question of how a subject matter is taught.

All in all, at UPOU, teaching is challenging and exciting. It forces one to be a creative facilitator of the learning process. Other UP professors should try it sometime.

Alongside quality instructional materials is an efficient and effective learner support system. We offer our students online services in the areas of tutorials, enrollment, payment of fees using credit cards, access to grades and other important student information, interaction with tutors and professors, and a host of other services including online access to the UPOU Library. We do strive to provide the appropriate support services needed for independent learners to gain as much social interaction experiences as possible, short of regular weekly face-to-face encounters.

Our students are working students who have decided to come back to school precisely because they can study without leaving their jobs and families behind. They are a different breed of learners, highly motivated, very professional, brimming with experience and new ideas, and with self-discipline. Even if they already have established social lives, UPOU still provides them opportunities to interact with other distance learners through the judicious and well-planned use of technologies such as the Internet, telecommunications systems, and other electronic communication devices on top of some face-to-face interactions that are part of the overall operations of UPOU.

**Conclusion**

I believe that the UP must continue to lead in the further development and improvement of distance education in the Philippines. It is the only institution that can do justice to this alternative educational delivery system, given its expertise, experience, programs, and human resources. That said, UP should look into how it could allow UPOU to operate under rules and regulations appropriate to the requirements of open learning and distance education. This is not extremely difficult since UP can introduce cutting-edge innovations in university governance that would promote development and maintenance of high standards in distance education in the country.

Without UP providing the leadership in distance education in this country, we are almost certain that very low quality distance education will permeate the entire country. I am sure that UP would not like this to happen. It is its mandate to provide the best education the Filipino can aspire for. But there is a limit to UP's ability to accommodate more students into its cramped campuses. Its best alternative is to reach more Filipino learners through UPOU.

## Digital Learning Environment in the Philippines: Perspective from the UP Open University

11 December 2004

### Introduction

Like in many parts of the developing world, digital learning in the Philippines is of very recent vintage, full of problems, brimming with exciting prospects, a growing population of enthusiasts, and a continuing arrogance of the non-believers whose number, we are happy to report, is getting smaller. Yet, this experience is hardly enough basis for making final decisions as to which directions we should go. We have, however, detected certain problems and prospects that we believe could lead to some kind of a trend, which we might want to assess further to determine how these might influence the development of digital learning in the country.

To highlight these problems and prospects, therefore, is what this paper intends to do.

By way of providing a background for this presentation, I wish to give a very brief description of the University of the Philippines Open University (UPOU) as an institution of distance education in the Philippines, and its limited experience in digital learning.

### The UP Open University

The University of the Philippines (UP) System comprises seven constituent universities. UPOU is the fifth, established by act of the UP Board of Regents on 23 February 1995. Mandated to deliver academic degree programs in the distance mode, UPOU is acknowledged as the cybercampus of the UP System and is now known in the league of open universities in the Asian region.It is also leading in the formulation and testing of cutting-edge innovations in the delivery of quality education services in the distance mode in the Philippines, with an apt slogan, "Lifelong Learning for Every Filipino, Lifelong Learning for All."

UPOU's foundation and development were influenced by a series of events starting with the first school-on-the-air broadcast originating from UP Los Baños (UPLB) in 1967. This was followed by the testing and implementation of a project titled "Science Teaching Using Distance Instruction (STUDI)" in 1984. As a result of the successful STUDI, a formal degree program called the Diploma in Science Teaching was instituted by UPLB in 1988. In 1991, the UP System President organized the UP Distance Education Program. Then, on 23 February 1995, the UP Board of Regents approved the establishment of the UPOU as the fifth autonomous university of the UP System. The Offices of the Chancellor, Vice Chancellor for Academic Affairs, Vice Chancellor for Finance and Administration, and five faculties

(Faculty of Education, Faculty of Health Sciences, Faculty of Management Science, Faculty of Social Sciences and Humanities, Faculty of Science and Technology) were created. A couple of years later, in 1997, the Office of the Vice Chancellor for Student Support Services was created.

In 1999, UPOU was reorganized and the Office of the Vice Chancellor for Research and Development was created, together with the Audio-Visual Learning Laboratory (AVTELL) and the Online Teaching and Learning Laboratory (ONTELL). In January 2004, a second reorganization was implemented with only two vice chancellors and three faculties. The Office of the Vice Chancellor for Academic Affairs and the Office of the Vice Chancellor for Finance and Administration were retained. The five faculties were reduced to only three, as follows: Faculty of Education (FED), Faculty of Information and Communications Studies (FICS), and the Faculty of Management and Development Studies (FMDS). The AVTELL and ONTELL were merged to form the Multimedia Center (MC). Also, a Management Information Systems Office (MISO), as well as the Office of the Legal Counsel (OLC) were created.

UPOU was designed to provide the mechanism for a wider access to UP education for more Filipinos without watering down the quality of education that it delivers. It was felt that UP was in the best position to offer instruction through distance education in the country given its top caliber human resources, expertise, and experience.

There are 20 academic degree programs offered by UPOU at present, broken down as follows: one undergraduate program, nine post-baccalaureate Diploma programs, nine Master's programs, and one PhD program. Some of these are ladderized. The specific programs are as follows:

Associate in Arts (AA)
Diploma in Computer Sciences (DCS)
Diploma in Environment and Natural Resources Management (DENRM)
Diploma in Language Studies for Teachers (DLST)
Diploma in Social Studies Education (DSSE)
Diploma in Mathematics Teaching (DMT)
Diploma in Research and Development Management (DR&DM)
Diploma in Science Teaching (DST)
Diploma in Social Work (DSW)
Diploma in Women in Development (DWD)
Master of Arts in Education (MAEd)
Master of Arts in Nursing (MAN)
Master in Development Communication (MDC)
Master of Environment and Natural Resources Management (MENRM)
Master of Hospital Administration (MHA)
Master of Information Systems (MIS)
Master of Public Health (MPH)
Master of Public Management (MPM)
Master of Social Work (MSW)
PhD in Education (PhD)

UPOU has been designated by the Commission on Higher Education (CHED) of the Philippines as the national center of excellence for open and distance learning, and by the Commission on Information and Communications Technology (CICT) as the country's e-Learning Competency Center. It is also completing this year its second and last three-year term as member of the Executive Board of the Asian Association of Open Universities (AAOU). The UPOU Chancellor also sits on the Governing Board of the Southeast Asian Ministers of Education Organization-Regional Open Learning Centre (SEAMOLEC).

**Digital Learning: A Perspective**

It is an interesting, if strange, phenomenon that of more than 10 million entries in the Internet, not a single article has even tried to provide a catch-all definition of digital learning. There are many that try to describe what it is. This situation is probably best demonstrated by Louis Bonder of the University of Amsterdam when, in a lecture before the scientific staff of that university's Institute of Phonetic Sciences in 2001, he asked: digital learning, or what do we call it?

However, there is an apparent unanimity among experts worldwide that digital learning is learning with computers, that is why it is digital. It is also a component of the e-Learning phenomenon. Everybody in the field of ICT seems to know exactly what is meant by digital learning, and so they have avoided providing formal definitions. Maybe they are aware that frequently definitions generally provide limitations and we would be better off without these limitations.It is much like

defining the flu by its symptoms, and we know that not all the symptoms always show up when we contract flu. Thus, we go by descriptions of what are generally accepted components and processes that characterize digital learning.

The main characteristics of digital learning, according to Bonder (2001), include the following:

- Digitization of the course material
- Delivered independent of learner's location
- Learner studies at his own pace
- It is asynchronous
- It is interactive
- It is collaborative learning

These characteristics of digital learning actually reflect the features of distance education. Digitization of course material raises the fundamental question of whether or not digitization would affect learning style. Would there be any difference at all in learning analogue information as opposed to learning digital information? That, of course, is a question for the researchers to answer.

The infrastructure of digital learning has three major components: content, communication system, and content management system.

Content is the most basic of these three. This is what learners are after. This is what they learn. This is what they need. The communication system is the channel through which content is delivered. For digital learning, this would refer to the combination of human, computers, and telecommunications infrastructure. Content management system refers to the platform that enables us to manage content and delivery mechanisms to facilitate learning. And there are a lot of these platforms today. I shall not discuss them as you are most likely more familiar with them than I am.

**The UP Open University Experience**

*Digital Learning at the UP Open University*

UPOU's limited experience in digital learning started with the offering in 2001 of two non-formal courses titled "Introduction to e-Commerce" and "Filipiniana Online." The course "Filipiniana Online" is now offered as a formal three-credit course on Philippine culture and arts. Also in 2001, UPOU introduced its online tutorials, where tutors and students interacted mainly through electronic discussions. Today, all courses offered each semester have online tutorial sections for students who do not find the time to attend face-to-face tutorials in our learning centers. Increasingly, students are gravitating to online tutorials such that in this current semester (November 2004 to March 2005) about 80 percent of our students are on online tutorials.

UPOU made a decision to introduce online tutorials not because we had perfected use of the Internet as tutorial tool, but largely due to problems of sustaining face-to-face tutorials, which were becoming rather expensive and cumbersome to manage given increasing number of students dispersed throughout the Philippines, an archipelagic country of more than 7,000 islands.

I was warned from the beginning by some of my colleagues and friends that there would be problems with online tutorials and I thought that those were simply presumptions. I acknowledged their warnings but insisted that we would not know whether or not online tutorials would be problematic until we actually engaged in online tutorials. We conducted familiarization and skills training for our faculty on the use of the Integrated Virtual Learning Environment (IVLE) platform by arrangement with the National University of Singapore, in tutorial techniques, and use of the Internet as tutorial tool.

When we implemented our decision to do online tutorials, we did have a lot problems, but that was the only time when we actually knew that they were real problems because we were experiencing them. We had problems with the platform we were using. We had problems with our tutors not having a good handle of the platform as well as online tutorial techniques. We had problems with students who were not confident with their ability to use the Internet. And we had problems with our faculty not being familiar with the nuances of online tutorials. In other words, we had all sorts of problems, both technical and attitudinal.

So we had to conduct more extensive training for both our faculty and students simultaneously. Luckily, we are now past that point. Of course, if we were to use another platform, we will have some difficulty again because our faculty, staff, and students have mastered the use of the IVLE platform and are not eager at this time to migrate to another platform.

*Online Teaching and Learning Course*

In the summer session of 2003, UPOU offered for the first time a non-formal course titled "Online Teaching and Learning (OTL)" fully online. As a test course, it attracted 95 faculty members from the UP System and other public and private universities in Manila. Of course, there was high attrition rate, but we found that even the senior professors of UP enjoyed the course maybe because it was new to them. The general observation was that an online course was very challenging but enjoyable.

After the success of OTL as a non-formal course, it was transformed into a formal three-unit credit course now offered by UPOU's Faculty of Education. This course shall become part of the Master in Distance Education program being prepared by UPOU. As a formal credit course, OTL has had good enrollment in its first two semesters: second semester 2003-2004, 48; first semester 2004-2005, 61. All those enrolled in this course are faculty members from various universities in the country, or those intending to try online teaching. UPOU is now in the process of transforming its other courses to be offered online or stored in CD-ROMs for distribution to its students.

**Problems and Prospects of Digital Learning in the Philippines**

*Technology vs. Mindset*

I am tempted to refer to this issue as the digital learning divide, but we already have so many divides. So let me just explain it briefly. We have here two sets of problems: one is technological, the other psycho-intellectual, or what I call mindset. In the field of education, somehow the technical aspects always come before the content aspects. That is to say, the engineers have always told the educationists, "here is a piece of gadget, why don't you use it in your teaching activities?" I have always believed that it should be the educationists who should tell the engineer, "Mr. Engineer, I have here a concept that I want my students to learn quickly. Why don't you develop for me a device that will facilitate the learning of this concept?" That has never happened before. Still, we have all these technologies that we can use but many of our decision-makers are not providing enough opportunities for our teachers to use them so they can become more effective and efficient facilitators of learning.

The more serious issue is changing of mindset. Most of our teachers, policymakers, and decision-makers are still steeped in the conventional learning norm, that is, teacher-centered learning. As long as they remain convinced that we should not shift to a learner-centered mindset, digital learning will simply remain a good idea. Then, of course, the crucial hurdle for both the teacher and the learner is the migration from a teacher-centered environment to a learner-centered environment. This is not always the fault of the teacher, by the way. Sometimes, it is the fault of the learner because he is not prepared to take responsibility for his own learning, which is a given in most digital learning environments.

The Philippines may have been reported as the SMS or texting capital of the world, but in general, technology has really outpaced the local mindset, particularly in the field of education. What makes this rather crucial is the fact that learners in the Philippines are widely dispersed over thousands of islands that can only be served appropriately through extensive telecommunications infrastructure and distance education. The infrastructure is there and improving, but people in the countryside still tend to put higher premium on conventional schooling. However, schools are clustered largely in urban centers and there are very few, if at all present, in rural areas. In this context, it is wise to consider that there is a limit to the capacity of universities to expand physically to accommodate increasing student population, particularly from the countryside. Moreover, there is a limit to the willingness of government to subsidize the physical expansion of universities.

Distance education and digital learning may actually be the solutions to the problems of ineffective and inefficient delivery of quality education to a population widely dispersed over thousands of islands. But clearly, there is a need for policymakers, decision-makers, teachers, and learners to change their mindsets from a teacher-centered learning environment to a learner-centered learning environment. In the Philippines, we are achieving this but rather slowly. As everyone would agree, changing mindsets is not as easy as changing pieces of equipment.

In the Philippines, we are at a digital and e-learning crossroads where we have to hurdle three major issues.

First, we are wading through a pedagogical gap, the main feature of which is the reluctant acceptance of distance education by many higher education administrators and professors as a viable alternative system of delivering quality education services. We need to be more creative in the application of methods and techniques of distance learning so that we can resolve the issues that non-believers of distance education are so concerned about such as the maintenance of standards and providing social interaction opportunities for learners.

Second, we have to contend with a technological gap. One thing is sure though—many institutions and experts cannot seem to have enough to the gadgetry offered by rapid technological advancements. Unfortunately, either the education providers cannot afford the technology or the learners do not have easy access to it. We must use technology to the extent that it is accessible at reasonable costs. In fact, we have to revisit old technologies, especially if they still are able to provide solutions to our problems.

Finally, we have to deal squarely with the fact that it is difficult to migrate from teacher-controlled learning environment to learner-controlled environment. This may be the most crucial hurdle. We may not be able to overcome this anomaly overnight but as we try to solve it, we should further quicken our pace in migrating from the traditional learning environment within the confines of the physical classroom to learning in the virtual classroom.

*Access to Technology*

There are two levels of access. One is access to technology as hardware, and the other is access to technology as software. The former, generally referring to pieces of equipment and facilities, can easily be solved with appropriate allocation of financial resources, but the second is problematic. The software (i.e., computer program) itself may be easily affordable, but the associated issues involved are the problem. These are access to the software in terms of applicability and user friendliness in the context of the intended user's circumstances. For example, where needed, are the softwaregender sensitive? What does it take to use a particular software so that one can access content? What skills are necessary and how might these skills be obtained? There are lots more questions that need answers.

There is, however, every reason to be hopeful given the efforts of government to improve the telecommunications and related infrastructure in preparation for a massive digital learning movement in the countryside. It is good sign that most higher education institutions in the country, particularly those situated outside the centers of population (e.g., Metro Manila and the cities of Davao, Cebu, and Iloilo) are fast getting connected to the Internet. In fact, some of these institutions are more prepared for digital learning than many in the centers of population mainly because they have been, in recent years, the focus of technical assistance from more advanced countries like Japan, Europe, and the United States.

*Expertise Factor*

In the Philippines, as elsewhere, the people currently lording it over in the digital learning sector are the computer experts and some subject matter experts who are very good in computers. The approach, as in the past, has been to obtain the hardware before the software, and develop the human resource later.

What we need today are specialists who are experts in hardware, software, and content. These people, of course, are hard to find. This is the

reason why there is an urgent need for human resource development effort in this area.

There is an associated issue here, which has something to do with people having specific skills to use for specific technologies. When we introduce a new technology, we naturally also provide people with new skills so that they can use the technology. We call this retooling, butsome people claim that the term retooling sounds too mechanistic. It is as if technology dehumanizes people. If we do not like the term retooling, then what do we call it? Perhaps we can call it re-skilling (which is providing an individual a new skill), but re-skilling sounds too manipulative. Now, what do we do with people who refuse to be retooled, or who cannot be re-skilled? There is a very old technology that fits this perfectly—it is called retiring.

There is an increasing number of opportunities for training of human resources in the use of information and communication techonolgies (ICTs) and upgrading of skills in computerization and use of the Internet. Human resource development and upgrading is one of the priority areas of CHED. It is for this reason that UPOU has been co-opted as one of the trainer institutions in the field of computer science and information systems.

*Funding Squeeze*

One major concern that I have as an administrator of a distance education institution is the mad scramble for the use of top-of-the-line software and hardware. Changing your software, for example, does not mean simply changing the software. It means, for the most part, redesign of content, and retooling users of the new software. This is hardly cheap, and my institution cannot afford it.

An internal policy that we follow at UPOU is that we try to formulate new ways of using existing technology that is already accessible to our potential learners. For example, in the Philippines, cellular phones are quite popular. Even the household help, drivers, market vendors, beauty parlor attendants, manicurists, and the like do have their own cellular phones. The cellular phone is common piece of hardware even in the rural areas. So we asked ourselves, "How can we use the cellular phone to educate the public on significant subjects?"

We decided to introduce our m-Learning program. Other open universities in other countries use m-Learning to provide information about their institutions and promote their programs, but at UPOU we are trying to use the cellular phone to deliver lessons. Today, we have small modules on various topics such as health, mathematics, and English. We are providing lessons for learners on the go. This is how it works.

If you have nothing to do while on the bus, taxi, or railway transit, you might just want to try and dial 700-UPOU (700-8768). Automatically, you get a response from the telecommunications provider, giving you a set of topics to choose from. Punch "mLearning" and you are given a set of topics to choose from. For instance, if you choose "Lifestyle Check", you get a set of diagnostic questions that you must answer. You also get your score after the diagnostic test. You will also get a text message urging you to buy a small module from UPOU if you are interested to know more about the subject matter.

If you complete and pass the diagnostic tests for a set of modules, let us say in the health science sector, you may wish to request for a certification and UPOU will certify that you have completed and passed a diagnostic test on common health practices, or mental math, or English spelling, or some other topics. This program was designed to be for fun and at the same time to provide lessons and practical knowledge to the general public.

We are now in a process of evaluating this program, trying to determine if it really has any impact at all on the general public. The International Development Research Centre (IDRC) of Canada has included in its ICT program the testing of this technology in the Asian region in the next year.

Funding remains a problem, though. Even so, the private sector has become more active in the

development of human resources as well as in the improvement of the physical infrastructure for telecommunications and computerization in most parts of the country. For example, practically all the Internet service providers in the country are private entities. The only government service provider is the Philippine Research, Education, and Government Information Network (PREGINET), which provides, at the moment, free service to educational institution such as UPOU. Eventually, of course, there will be some fee for this service but at least this transition period provides us some opportunities to put in place a system of revenue generation in support of a digital learning program in the future.

*Policy Issues*

In the Philippines there are no laws governing distance education, much less digital learning. However, CHED, through its Technical Committee of Reviewers for Open and Distance Education, has put in place a national policy framework for distance education.

The policy environment for e-learning in the Philippines is not clear. What is clear at this time, according to the policy framework formulated by CHED's Technical Committee of Reviewers for the Delivery on Open Learning and Distance Education, is that government regulation is not a sufficient condition for promoting quality online learning for the following reasons:

1. Government is severely under-resourced and unable to efficiently enforce minimum standards;
2. Technology advances occur at such a speed that updating government policies fast enough to cope with rapid change can be unwieldy;
3. Too stringent regulation can stifle the creative energies of higher education institutions, which is critical to tap for local e-learning to flourish and for such programs to gain regional and international appeal;
4. Regulation, if not appreciated in the context of more fundamental principles of public good and professional excellence ("the spirit of the rule") only breeds school behaviors, which tend to circumvent the "letter of the rule"; and
5. By its nature, government regulations focus on minimum acceptable standards—ensuring the avoidance of public harm, which does not necessarily promote excellence in such programs.

In general, the national policy environment for digital learning in the Philippines is encouraging. For example, the national government has made it a policy to promote the use of ICTs in the education sector. This is clearly the intention with the establishment of the Commission on Information and Communications Technology (CICT) that is mandated to lead in the application of ICTs in the development efforts of the country, including in education. The CICT has demonstrated in its most recent decisions that it will strengthen its support to building the infrastructure needed to promote digital learning. For instance, it shall be funding the infrastructure development plan for the Open Academy for Philippine Agriculture, the most ambitious and massive application of information and communications technology in support of a sectoral development program—agriculture—through continuing education.

Given the efforts of the CHED to improve the policy environment for distance education including e-Learning in the country, and with UPOU accorded the leadership role in the development of distance education in the country, we are hoping to resolve the rather disorganized efforts of various institutions at developing digital learning programs.

The Technical Committee of Reviewers of CHED also suggest the following additional institutional elements to be included in the policy framework:

1. A system of voluntary peer accreditation;
2. Widely available public information on the recognition and accreditation status of programs; and
3. A professional association of e-Learning practitioners to promote ethical and sound practice.

**Concluding Statement**

Digital learning in the Philippines is of very recent vintage, having been introduced in formal schooling on an experimental basis no more than three years ago.Today, more and more formal credit courses are offered fully online by Philippine educational institutions. In most of the institutions that offer courses online (largely experimental), we are experiencing a lot of labor pains ranging from

limited hardware infrastructure to what I would call amateurish instructional design.

The interest in digital learning, however, has been increasing rapidly during this year. If plans do not miscarry, at UPOU we shall have at least 75 percent of our courses transformed into multimedia formats and delivered both traditionally and online in the next three years.


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## Trends, Issues and Developments in Open and Distance Learning

11 March 2006

**Introduction**

In a comprehensive discussion of the trends, issues, and developments in open and distance learning, we must include the elements of the information society or the knowledge society. This is where the discussion can become confusing and dizzying because of the interrelationships among developments in multiple fronts. Indeed, today it is in education where the most recent developments in the technological front are converging, giving rise to the unprecedented creative approaches and innovations to learning the exponentially growing amount of new information and knowledge.

It is not simply a question of everyone wanting to learn an increasing volume of information and new knowledge because this simply is not possible. Rather, it is a question of making choices of what we need to learn and how we ought to learn what we choose to learn. In analyzing this apparently simple situation, I would like to bring to your attention some factors that I believe would influence how we learn in the knowledge-based society.

**Environment for Learning New Information and Knowledge**

Without having to go through a hair-splitting discussion of the theoretical dichotomy between the information society and knowledge society, I would like to simply look at these two concepts as related and directly connected, one being a more sophisticated continuation of the other. Indeed, knowledge is a higher level order in relation to information. Viewed another way, a systematic collection of interrelated pieces of information leads to a certain type of knowledge.

Information is what fuels modern society, giving rise to the information society. What is the information society? Let's just go by the technical definition provided in 1997 by the IBM Community Development Foundation which defined the information society as follows:

> *A society characterized by a high level of information intensity in the everyday life of its citizens, in most organizations and workplaces; by the use of common or compatible technology for a wide personal, social, educational, and business activities;and by the ability to transmit, receive and exchange data rapidly between places irrespective of distance.*

Such definition, really, provides enough elbow room so that, depending on how we look at it, the information society would have different levels of maturity and sophistication. Almost four decades ago, taking off from the works of the economist Fristz Machulp beginning in 1933 and culminating with his book titled "The Production and Distribution of Knowledge in the United States" published in 1962, Marc Porat reported his landmark analysis of historical events, which he said clearly established what could have been

referred to as the dawning of the information society.The information society, as we all know, is the precursor of what we call today as the knowledge society.

In a knowledge society, the growth of knowledge is exponential. This was observed in 1963 by Price, who said that "if any sufficiently large segment of science is measured in any reasonable way, the normal mode of growth is exponential." He was referring, of course, only to the growth of scientific knowledge, which was doubling every 15 years. If the number of scientific journals would be any indication at all, Martin (1981), the guru of telematics, calculated almost a quarter of a century ago that the number of scientific journals increased by a factor of 10 every 50 years. This put the number of scientific journals in the year 2000 at one million, and in the year 2050 at 10 million. But then again, Martin could not have factored in the publication of electronic journals 25 years ago. Hence, there must be many more journals today if we include the electronically published ones.

Martin also calculated that by year 2040, which is only 34 years from today, there will be 200 million different books published and storing these in a conventional library would require some 8,000 kilometers of bookshelves and about 750,000 drawers of the card catalogue cabinet. A dozen years ago, the card catalogue of the International Rice Research Institute in Los Baños, which holds the most complete and comprehensive collection on rice science in the world, had only 576 drawers. Today, it can't be more than 800.

If this is not enough for you, let me put it another way. Twenty-one years ago, an old friend, James Evans, said that if he were interested to read the one month entries into only one agricultural database, the AGRICOLA (Agricultural Online Access System of the US National Agricultural Library), he would have needed to set aside about 200 years, reading eight hours everyday, 365 days a year. At that time, reading all entries of the AGRICOLA would have required some 24 centuries of reading. Twenty-one years ago, the growth of such information and knowledge was 14 percent annually. One wonders how much knowledge there is at this hour that we all need to learn because we require such knowledge to be reasonably productive in our respective academic disciplines.

"The knowledge society," observed Peter Drucker (1994), the guru of modern management, "will inevitably become far more competitive than any society we have yet known for the simple reason that with knowledge being universally accessible, there are no excuses for nonperformance. There will be no poor countries. There will only be ignorant countries."

Drucker's prescription in 1994 is as interesting to management experts as it is to distance education experts. An educated person, he had said, will be one who has learned to learn and will continue to learn throughout his or her life, especially in and out of the formal education system. This is continuing education. This is life long learning. He said, further:

> *In the knowledge society, clearly more and more of knowledge, and especially of advanced knowledge, will be acquired well past the age of formal schooling, and increasingly, perhaps, in and through educational processes which do not center on the traditional school, e.g., systematic continuing education offered at the place of employment.*

In other words, put simply, learning all the knowledge available to us today will not take place in the confines of the classrooms alone. Much of the learning that shall happen in the knowledge society shall happen outside of the formal classrooms, in places where distance learners are. Much of what people will learn will also depend on what they will choose to learn, and how much and how quickly.

**Some Basic Issues**

*Technology vs. Mindset*

I am tempted to refer to this as the learning divide, but we already have too many divides. So let me just explain this point briefly. We have here two concerns: one technological, the other psycho-intellectual or what I shall refer to as "mindset." In the field of education, somehow the technical aspects always come before the content aspects. We have all these technologies that we can use but many of our educational policy- and decision-makers are not providing enough opportunities for our educators and learners to use them so they can become more effective and efficient facilitators and beneficiaries of the learning experience.

The more serious issue is changing of mindset. While those of us in open and distance education already have migrated to the learner-centered paradigm, many of our colleagues in the conventional system remain steeped in the teacher-centered learning environment. The crucial hurdle is the shift from a teacher-centered to a learner-centered learning environment. This may not always be the fault of the teacher since in many cases it is the learner who refuses to take responsibility for his or her own learning.

Of course, changing mindsets is not as easy as changing pieces of equipment. We have to deal with three serious gaps here.

First, we are wading through a pedagogical gap, the main feature of which is a reluctant acceptance of distance education by many senior educators and education managers and policymakers as a viable alternative system of delivering quality education. We need to be more creative in the application of methods and techniques of distance learning so that we can resolve the issues that non-believers are so concerned about, such as the age-old issue of maintenance of standards and providing social interaction opportunities for open and distance learners.

Second, we have to contend with a technological gap. One thing is sure, though—many institutions and experts cannot seem to have enough of the gadgetry offered by the rapid technological advancements. Unfortunately, either the education providers and learners alike cannot afford the technology or they do not have easy access to it. We must use technology to the extent that it is accessible at reasonable cost. In fact, we should revisit old technologies, especially if they still are able to provide solutions to our problems.

Finally, we have to deal squarely with the fact that it is difficult to migrate from a teacher-centered learning environment to a learner-centered learning environment. This may be the most crucial hurdle. We may not be able to overcome this anomaly overnight but as we try to solve it we should further quicken our pace in moving from the traditional learning environment within the confines of the physical classroom to learning in the virtual classroom.

*Access to Technology*

There are two levels of access that I have in mind at the moment: access to technology as hardware and access to technology as software. The former, generally referring to pieces of equipment and facilities, can easily be solved with appropriate allocation of financial resources, but the second is problematic. The software, i.e., computer program, itself may be easily affordable, but the associated issues involved are the problem. These are access to the software in terms of applicability and user friendliness in the context of the intended user's circumstances. For example, where needed, are the software gender sensitive? What does it take to use a particular software so that one can access content? What skills are necessary and how might these skills be obtained?There are a lot more questions needing answers.

*Expertise Factor*

What we need today are specialists who are experts in hardware, software, and processes. These people, of course, are hard to find. This should be enough reason why there is an urgent need for human resources development effort in this area.

There is an associated issue here, which has something to do with people having specific skills to use for specific technologies. When we introduce new technology, we naturally also provide people with the new skills to use the technology. We call this retooling, but some people claim that the term retooling sounds too mechanistic, as if technology dehumanizes people. We can call it re-skilling (which is providing people new skills) but this sounds too manipulistic. Now, what do we do with people who refuse to or cannot be retooled or re-skilled? The solution is an old technology—retiring.

*Funding Squeeze*

One major concern that I have as an administrator of a distance education institution operating in a poor country is the mad scramble for the use of top-of-the-line software and hardware. Changing your software, for example, does not always mean simply changing the software. It means, for the most part, redesign of content treatment and retooling of users. This is hardly cheap. And the financial resources that I have access to are being continuously depleted.

Funding problems could be resolved with an active partnership with private industry and other non-traditional funding sources such as the non-governmental organization (NGO) sector.

*Policy Issues*

The policy environment would differ from country to country. Some are more advanced than others in terms of acceptance of open and distance education as an alternative system of delivering quality educational services. Furthermore, some are more experienced than others. There should therefore be a system where institutions are able to share ideas and experiences in order that we are able to provide the learning services in support of a developing knowledge society.

**Some General Trends**

In a post-conference workshop sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO) during the 19th Asian Association of Open Universities (AAOU) Annual Conference in Jakarta in 2005, Dato' Prof. G. Dhanarajan, former President of the Commonwealth of Learning based in Vancouver, Canada, and now Vice Chancellor of the Wawasan Open University College in Penang, Malaysia, discussed the unmistakable worldwide trends in open learning and distance education. These trends may be categorized into five groups:

*Distance Learning Trends*

1. Lifelong learning is becoming a competitive necessity. There has been a continuous increase in the number of institutions offering educational programs in the distance mode. Even training institutions and ordinary organizations now have their programs geared toward lifelong learning, or the idea of continuing education as requirement for their personnel. Professionals are required to demonstrate that they have been engaged in continuing education activities when they renew their professional licenses.

2. More courses, degrees, and universities are teaching strategies that exploit the capabilities of technologies. Even conventional instruction has increasingly been using technologies of learning such as the use of information and communication technologies (ICTs). There are no instructional programs today that do not employ communication media. Learners are becoming more selective and would now prefer courses that are highly visual and interactive. This is perhaps one of the reasons why computer games are highly popular.

3. The Internet is becoming dominant among the other distance education media. The Internet could be the top of the line of educational technologies, especially in distance education. The technology requires a high level of active participation by the learner, and practically all the resources of learning are within one's fingertips.

4. There is a need for effective course management systems as web services are growing. Simply uploading course materials into the web does not necessarily mean learning will easily occur. A lot of preparation, instructional design efforts, and multimedia production activities go into the formulation of a course that is delivered online. In fact, online learning exacts strict demands on the learner's skills, time, motivation and self-discipline. The learning facilitator has to prepare and schedule the resources that are needed in order for the learner to learn effectively and efficiently.

*Academic Trends*

1. Higher education is changing. Traditional campuses are being challenged on many fronts as profit institutions are growing in number, and public and private institutions are beginning to merge. Education has truly become a commercial enterprise where the end-motive is profit rather than learning. Learning seems to have taken the back seat and has become a consequence rather than the end goal.

2. Phenomenal growth of knowledge and information requires a revisit of pedagogy. The main issue is that we have a much shorter time to learn a much more voluminous amount of information and new knowledge as a consequence of the information revolution and the knowledge society.

3. Education is becoming seamless between high schools, colleges, and further studies. More and more, the distinction between the levels of the educational ladder are becoming less and less distinct. In fact, there seems to be a very wide area of overlap from one education level to the next.

4. Institutions are becoming more learner-centered, non-linear, and self-directed. Educational institutions are becoming more concerned about their students' learning styles rather than their teachers' teaching styles. Increasingly, teachers are becoming better facilitators of the learning process rather than mere dispensers of information.

5. Some advocate standardizing content through creating reusable learning objects. The perception is that well-prepared learning materials may be used across culture and learning situations. This may be correct for subjects that are not influenced by cultural situations such as mathematics, physics, biology, and chemistry. Standard learning objects may be useful and practical when the subject taught is fundamental or basic.

6. There is a perceptible shift in organizational structure toward decentralization that is moving towards unbundling of efforts. There is a perceptible shift toward decentralizing instructional efforts, which may be demonstrated by the fact that teachers are pretty much independent when it comes to the design of instruction and learning activities. Centralized examinations, for example, are being less and less emphasized and individual evaluation of performance of learners seems to be highlighted.

7. There is a growing emphasis on academic accountability. The basic question is this: Who is responsible for learning and for providing a good learning environment? It is said that learning is the responsibility of the learner, while providing the resources to facilitate the learning process is the responsibility of the teacher. It is, however, the responsibility of the learning institution to provide the overall environment for learning within which the teacher and the learner operates.

*Student/Learner Trends*

1. There is a crisis in the making. Higher education has been failing in the past 10 years to accommodate students. This could be a revisit to the world educational crisis in the 1960s. There is a continuous increase in the number of students, but there is no corresponding increase in the budgetary allocations for instruction. Clearly, the educational institutions are not able to provide the necessary learning environment that all those who want to learn require. There are not even enough classrooms on top of the fact that some teachers are ill-equipped to teach and students are not prepared for academic work.

2. Students are shopping for courses that meet their circumstances. The standard curricular program is probably on the way out. Learners are beginning to demand courses that they feel are needed in their individual circumstances. In other words, personalized or custom-made courses are becoming more popular. Learners are demanding specific content that they need in their specific work-related situations.

3. The profiles of learners are changing. More and more adult learners are coming into the picture. Retired individuals are demanding retooling courses for themselves because they want to continue being productive even in their years of retirement. In addition, more and more individuals are seeking second jobs and to be able to do so they are, on their own, seeking to retool themselves to satisfy the requirements of a different and perhaps even new work environment.

4. The participation rate of adults, females, and minority groups of learners is increasing worldwide. Where before these groups have had limited access to educational opportunities, today they now have better access to educational opportunities and there is a steep increase in the number of adults, females, and minority groups seeking admission into the educational system, formal or otherwise.

5. Concerns regarding retention rates continues to be important. Retention of students in schools is becoming a serious concern because more and more are leaving school in order to seek employment. This may be largely due to prevailing economic problems.

*Faculty Trends*

1. There is an increasing serious challenge to the traditional roles of the faculty. What is clear today is that there is a shift in the demands on faculty members. We now require our teachers to be able to design dynamic instructional environments, interactive instructional materials, and highly dynamic curricular programs. We expect our teachers to be able to write individualized learning instructional modules, be proficient in the use of ICTs for instruction, and skillful in the use of computers and the Internet in the delivery of instruction.

2. There is an increasing awareness of the need for faculty development, support, and training. As a result of the demands on the faculty for additional and new skills, management of educational institutions are increasing becoming aware of the need to provide professional development programs for teachers.

3. There is an increasing use of non-traditional faculty, such as those from the community and business. Where before, professionals working outside of the schools were not normally involved in teaching, today, highly experienced professionals are increasingly being co-opted to teach specialized courses in universities. To a large extent, this has proven to be advantageous because the schools and students alike have benefited from the wealth of experience of professionals.

4. There are still pockets of serious faculty resistance being encountered. Not all educationists agree that distance education is a good alternative. There are still some who disagree and do not believe that distance education can equal conventional instruction. The fact remains, however, that there is an increasing number of education experts who have changed their perceptions about distance education as an alternative means of delivering quality educational services in the face of the inability of the conventional institutions to provide the education needed by the learners

*Technology Trends*

1. Technological fluency is becoming a graduation requirement. For one thing, distance education students must master the use of ICTs and the Internet, given that they are taking courses online. In today's educational environment, every learner has to be able to manipulate the technologies employed in the delivery of educational services if they want to learn. Education today is really technology-driven.

2. There is a huge growth in Internet usage for education. In the Philippines, the rate of penetration of the Internet in the countryside is less than 10 percent. However, the number of Internet users is increasing rapidly. In the next five years, it is likely that Internet penetration in the country would reach the 15-20 percent level.

3. Technological devices are becoming more ubiquitous, but are changing rapidly. The rapid developments in the technological front is really dizzying. Practically every year, computers are upgraded, ICT devices are upgraded or changed, and then new devices are coming into the market as frequently. The ubiquity of ICT devices has changed the face of instruction worldwide.

**Some Lessons Learned**

*Less Funds for Higher Education*

With economic uncertainties, there are less fund resources for higher education. There is a continuing increase in the number of students getting into schools but there is no corresponding increase in the allocation of funds. This is likely to continue and there is now a need to identify alternative ways of delivering quality instruction at reasonable costs. Furthermore, it has become necessary for educational institutions to generate new revenues to fund improvements in their academic programs.

*Learning is an Essential Part of Daily Life*

Learning is a lifelong commitment. We all learn on a continuing basis, whether or not we are aware of it.

*Learning Providers Must Respond to Learner Needs*

One of the important tricks of the educational enterprise today is that educational institutions must become aware and respond quickly to the needs of their students and teacher alike.

*Need to Adapt to Changing Demands*

Changing demands is probably a mainstay in the educational enterprise. There is a continuing change in the demands of teachers, particularly in terms of increased benefits and decreasing workloads. There, too, is an increasing demand from students for better services, access to resources of learning, and better facilities and learning environments. If educational institutions are unable to adapt accordingly, this would be immediately translated into decreasing enrollment and perhaps even teacher unrest. Certainly, this would translate into poorer instructional services.

*Governments Must Provide Learning Infrastructures*

This refers to the fact that the infrastructures of learning are not as advanced as they ought to be in the Philippines, for example. Of the more than 100 state universities and colleges, one can say with certainty that at least 60 percent of these do not have enough facilities for instruction in the areas wherein they have academic programs in. Save for a few, these institutions do not have enough computer laboratories even if they are offering degree programs in computer science. Their physical facilities are dilapidated. More seriously, their faculty profiles would show that their teachers should not be teaching what they are teaching. In other words, they lack appropriate credentials.

**Concluding Statement**

Let us gear up to an exponentially increasing amount of new knowledge to learn.


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## Developing and Strengthening Academic Initiatives in Emerging Fields in Science and Technology

26 May 2006

A closing remark is not merely a statement to end a human social and communication activity. It is more a statement of the implications of what has transpired that has come to a close. This is what this Closing Remarks shall be.

Earlier this week, I participated in the first International Symposium on Information and Communications Technology (ICT) in Social Development in Jakarta. This symposium was organized by the ASEAN Foundation and participated in by some 50 ICT experts from various parts of the globe. My keynote address focused on the innovative uses of SMS technology for mass information and mass education, particularly on the issue of the avian flu across the ASEAN region. The avian flu could become pandemic, especially if it is true that the virus can transfer from human to human as it is suspected in Sumatra. Now, this is where upstream research in biotechnology, as pointed out by Dr. Alvin Marcelo, could be important.

In the course of my discussions with academics from North America, Europe, Oceania, and the ASEAN region, it was very clear that we have not seen the end of the technological revolution in the communications area. In fact, all agreed that what we are seeing now is simply the start of a much more mind-boggling, rapid technological development not only in application, but more so in basic knowledge generation, much of which is now going on worldwide.

For example, the direction toward which research in electronics is going in other parts of the world is clearly toward more miniaturization—quickly moving towards pervasive computing, as Dr. Joel Marciano said—and into instrumentation, as emphasized by Dr. Cesar Saloma. As we all know, the gadgetry in human communication is becoming tinier and tinier, and yet much more powerful in reach, quality, and performance.

What seems interesting to me is that it is in this arena of the emerging technologies that Filipinos can actively participate and become known the world over, not only as Mount Everest climbers but as scientists as well. We have many world-caliber scientists who are not known internationally because they are less published compared to their counterparts in the developed countries.

The Filipino is not lacking in creativity, but much of this creativity is perhaps harnessed more in other areas of interest rather than in the pursuit of scientific endeavor. In the field of communication, for example, we Filipinos are extremely creative. Why, we even have been able to break the Da Vinci Code. Just as I was going to present my keynote address in the Jakarta symposium, I got a text message from the Philippines. It contained what was referred to as the Da Vinci Code, which is composed of three lines, as follows: first line: Capital letter Y, 6, capital letter M; second line: 62, space, capital letter Y, small letter o, small letter

d, 6, small letter d; third line: small letter n, small letter I, capital letter M, 6 small letter L, 6, 2.

Then to break this code, the text message said, put your cellphone in front of a mirror and read it from there.

Lo and behold, it read: *MaYbaboYsasalaMin*. (There is a pig in the mirror.) Imagine, if we can only put that creativity into scientific work!

The advocacy that Vice President Amy Guevara has taken to push University of the Philippines (UP) academics to undertake significant research in the emerging technologies, I believe, is unprecedented in UP. As far as I can recall, and I'm probably the most senior here chronologically, this may be the first time that the UP System has actively and openly pushed UP faculty and researchers alike to take off and do the basics.

In the scientific arena, while the application is important, it is in the basics where the thinkers and the geniuses are often recognized. It is the academics who push the frontiers of basic scientific inquiry that are recognized, for example, by the Nobel Prize. Filipino scientists, of whom the best are in UP, can and must compete in this arena.

Dr. Cesar Saloma highlighted the need for trained scientific manpower. Let me comment on this briefly.

To further elevate the capability of our faculty and researchers, I wish to suggest that we also look seriously at an idea, which I recall I have brought to the attention of some academic administrators of the UP Los Baños (UPLB), particularly the Dean of the Graduate School, in the mid-1980s. That time, I had asked the simple question: We are graduating Master of Science and Doctor of Philosophy degree holders, how sure are we that these individuals are well-grounded on the meaning and philosophy of science? The least we can do is offer at least one course on the sociology of knowledge and another on the philosophy of science.

A course on the sociology of knowledge may be considered the general education (GE) course for master's degree students, while the course on the philosophy of science the GE course for PhD students. This would contribute, I hope, to pushing our graduate students to become generators, rather than mere appliers, of scientific knowledge.

Another idea that we have suggested together with these courses was to require graduate students to publish their theses and dissertations. UPLB, I understand, has adopted this as an option. My discussions this week with academics from North America, Europe, Oceania, and ASEAN clearly puts on top of the agenda the need to publish. Graduate theses and dissertations, we all agreed, must become part of scientific knowledge, and the only way this can happen is when these are published and accessible to other scientists to comment on and for the public to use. If they are not published, therefore, they are considered nonexistent.

I wish to push the idea further. Perhaps it is about time that we require graduate students to get their graduate research results published before they are awarded their respective graduate degrees. Graduate students must be able to write their research in publishable format and get it published. I know that in some universities abroad, theses and dissertations are written in publishable format so that you can have a dissertation that is only 40 pages. I feel that this is the way to go. I question the logic of tenaciously and blindly clinging to the tradition of writing theses and dissertations the way they are written today and have them gather dust in the bookshelves of the library and the storage room of the Graduate School where they are not accessible to the public.

This is too tough and inconsiderate? Well, we must understand that graduate education is not a right. It is a privilege, and along with it is a set of rigorous responsibilities and social expectations.

As academics and researchers, our responsibility does not end after we have generated new knowledge. An important part of this responsibility is to tell the public what knowledge we have discovered or generated and to educate the public to use this new knowledge for human development and disciplinary advancement. To my understanding, this is an important component of the moral intention of the UP Scientific Productivity System that has been put in place in the university.

Now, that's a long closing remarks, but I hope we take the things I highlighted seriously. And I'd like to take this opportunity to congratulate and thank Vice President Amy Guevara for taking the

lead in the endeavor to push our academics to elevate their own skills and capability to generate new knowledge, especially in the emerging technologies that will have untold implications to human living in the future. I also congratulate and thank the members of the Committee for their foresight and deep scientific thinking that led to the identification of the areas of concern that the Filipino scientist must participate in. This is a new dawn for the Filipino academic. Let us all embrace it.

With that, I hereby bring this program to a close. Thank you and good day to all.

## Grace Javier Alfonso

Chancellor, 2007-present

### A Bio Note

On October 12, 1950, Francisco and Purita Javier had their youngest daughter. They named her Grace Margaret.

This girl eventually grew up to be an artist. As a child, she had been into drawing, craft making, and stage performance. Just like her siblings, she also did well in academics. Growing up in a family where both parents were educators, this was perfectly understandable. Her mother was a school teacher while her father was a military man who also taught at the Philippine Military Academy.

After finishing her high school at the UP Integrated School, she went to the University of the Philippines (UP) in Diliman, where she took up her bachelor's degree in Fine Arts. UP Diliman in the 70s was a time for radical ideas. Not only were the students questioning the political structures of the era, some were also exploring these issues through alternative modes of expression. Basking in this environment, she dabbled not only in painting, which was her major area of specialization, but also in theater, creative writing, music, and conceptual art. In hindsight, she would see this stage in her life as her initiation into the world of multimedia.

Upon finishing her BA in Fine Arts, she taught briefly at the College of Fine Arts. Shortly after, she got married to Victor Alfonso. While raising her two sons Victor Franco, Jr. and Ramon Luis, she took her Master of Arts degree in Art History at UP. For her master's thesis, she interrogated and claimed the space for traditional Filipino crafts as legitimate forms of art.

Armed with a master's degree, she was invited to teach audio-visual communication full-time at the UP College of Mass Communications in 1981. At that time, the College wanted to create a film program in addition to its journalism, broadcasting, and communication research departments. Then Assistant Prof. Alfonso was chosen to establish the ground for the establishment of what is now known as the top film school in the country. She eventually became the first Chair of the Film and Audiovisual Communication Department and the first Director of the UP Film Institute.

Grace Alfonso was the type of academic who did not dichotomize her work into the theoretical and the practical. While teaching in UP Diliman, she also got involved in the industry as director and writer of documentaries, drama anthologies, and films that tackled stories about women and other social concerns. She has worked with established actors and actresses in the film and television industry. Long before reality shows became popular, she had already produced talent development shows to discover new artists. She created a comedy program produced, written, and acted in by UP mass communications students, many of whom are now the leaders in the broadcast industry.

As a film academic and researcher, she has written treatises on film education and the state of the Philippine movie and television industries in both local and international publications. Dr. Alfonso wrote on film and culture in several broadsheets. As a film critic, she has been an active member of the local film critics group *Manunuri ng Pelikulang Pilipino* since 1991 and has served as its Chair in 1996-1998, 2002-2003, and 2011 to present.

While teaching and working on film and television, she has continued to pursue her first passion—painting. To this date, she has done eight solo art exhibits and three group shows. Years later, UP would recognize her contribution as an artist at the university by bestowing upon her the honorific title of UP Artist I.

In the 1990s, a novel mode of teaching and learning was at its inception at UP. In both the Los Baños and Diliman campuses, distance education was being conceptualized and tested as a mode of delivery through various programs and initiatives. By the middle of the said decade, UP has made a concrete effort to institutionalize these efforts at the university by establishing the UP Open University (UPOU).

During its initial years, UPOU was looking for academics it can tap as it builds the foundation for the fledgling university. With her background in media production, she was recruited by Dr. Cristina Padolina, UPOU's first Chancellor, to join the open university in 1995 as Dean of the School for Distance Education in Diliman. In 1999, she became the director of the UPOU's Audio-Visual Teaching and Learning Laboratory (AVTELL). Her exemplary talent in multimedia and the arts led her to become the Director of the UPOU Multimedia Center (MC) in 2004. In her capacity as head of AVTELL and MC, she initiated the production of educational videos and conducted training on multimedia production for UPOU faculty and staff members.

In 2007, she was given another opportunity to serve UPOU but this time as Chancellor of the university. Upon assuming office, she took steps to make UPOU an integral part of all UP System-wide initiatives. UPOU's presence was mostly felt during the UP centennial celebration in 2008 when it took care of the multimedia component of the yearlong program of events.

During this time, Web 2.0 technologies like social media have begun exerting influence on e-learning. Unlike the previous decade when the production of information on the web was limited to the so-called technical experts, the rise of Web 2.0 has allowed more people to participate in the dissemination of information and creation of knowledge. To respond to these changes, she supported right away the intensification of the Resource-Based Course Package as an approach to online course development. Resource-based learning involves giving learners access to a variety of learning resources in order to develop subject knowledge, information literacy and higher order thinking skills and to foster active learning.

In order to enhance the culture of research in UPOU, she has sourced and allocated funds for research, research dissemination, research publications, and research publications awards.

Also during her term, series of colloquia and symposia as well as two International Conferences on Open and Distance e-Learning (ICODeL) were organized. Internationalization efforts were also pursued through collaborative partnership in terms of research and faculty exchange.

She has also valued the importance of modern IT and physical infrastructure in the effective delivery of UPOU programs and services. During her term, she encouraged the upgrading of UPOU's MyPortal (learning management system) and the establishment of the Online Registration System and Online Submission of Grades. In addition to the cyber infrastructure, she has also sought funding for the construction of the UPOU Oblation Hall; the UPOU Centennial Center for Digital Learning (CCDL) Auditorium, which is a venue for academic gatherings on online learning; and the UPOU Community Hub, which will house the University's front line offices like the Learning Center, UPOU Information office, and the University Library.

Dr. Alfonso is one of a handful of Chancellors in UP to be given the opportunity to serve their institution for three terms. By the end of her second term, she has begun articulating a worldview that combines the philosophy of open learning, the approaches of distance education, and the methods of e-learning. Dubbed Open and Distance e-Learning (ODeL), this worldview is a conception of how teaching, learning, research, and public service have developed at UPOU, an open university that is uniquely situated in a largely residential national university. She believes that ODeL, infused with the ethos of the universitas and facilitated by networked information and communication technologies, can lead to social transformation. She has actively advocated for ODeL and its applications and roles in national and regional development in various forums in and outside the country. From the small town meetings in Bani, Pangasinan and Prosperidad, Agusan del Sur to international conferences in Asia and Europe, she has brought this message of how recent technological and global changes are altering education and how society should respond to these developments.

For her contributions to open and distance learning, she has been invited to sit in governing boards and technical panels and had been consulted, in aid of legislation, on various issues and strategic directions for the education sector. Among her major engagements were as Chair of the Commission on Higher Education (CHED) Technical Panel for Transnational and Distance Education; Editorial Board Member of RUSC's Scientific Editorial Board, Executive Board Member of Asian Association of Open Universities (AAOU) and Member of Asian Media Information and Communication Centre Limited (AMIC), UNESCO Chair in Communication and Executive Board Member of the International Council for Open and Distance Education (ICDE).

When asked what has drawn her to UPOU all these years, she said that she has always believed in UPOU's mission and has been attracted by the nonconventional approach the university has taken to realize this mission. Looking back, she thinks that she has never been terrified of novel ideas, innovation, and pursuing the less trodden paths. This pioneering spirit has guided her throughout her career as an artist, academic, administrator, and advocate.

Primo G. Garcia


## Investiture Address

9 June 2007

Dr. Ma. Cristina Padolina, the first chancellor of UP Open University, my mentor, and my dear friend, I truly appreciate those wonderful words of introduction and thought-provoking message, my most sincere thank you.

I would like to thank the UP Board of Regents—Regent Ponciano Rivera; Regent Nelia Gonzales; Regent Lourdes Barcenas; our UP President, Dr. Emerlinda Roman; my colleagues at the College of Mass Communication and my colleagues at the UP Open University (UPOU); and all who have fully supported me in my work with UPOU and have now given me the opportunity to serve as UPOU Chancellor.

Continuing the work at UPOU with our dedicated vice chancellors; deans; faculty; research, extension and professional staff (REPS); and administrative staff is a most welcome challenge and honor for me. This means working closely with our UP System officials and colleagues from the different constituent universities who are our faculty affiliates. I am very happy to see many of you this afternoon.

To UP Diliman Chancellor Sergio Cao, UP Manila Chancellor Ramon Arcadio, UP Los Baños Chancellor Luis Rey Velasco, UP Visayas Chancellor Glenn Aguilar, UP Mindanao Chancellor Gilda Rivero, UP Baguio Chancellor Priscilla Macansantos, vice chancellors, deans of the different UP constituent universities, I am so glad that you are with us today. I am taking this opportunity to acknowledge your continuing support to UPOU, Congresswoman Riza Hontiveros Baraquel; Regent Oscar Alfonso, for guiding us through the program; and former UP President Emil Javier and former UP President Francisco Nemenzo, who are believers and movers of distance education in the Philippines,

To the honorable members of the Diplomatic Corps, to our grantors, our partner institutions, friends from the Culture and the Arts community, members of the film community, members of the press, students, parents, relatives, friends, distinguished guests, my dearest family, sitting at the front row, and most especially the graduating Class of 2007,

To all of you, good afternoon.

I am privileged and honored that I am given a rare chance to speak before such a distinguished audience, and on top of that, to address a graduating class. Indeed, it is an honor which is given to only a few, and if you go home tonight remembering some of the things that I would have said then I can say that I am truly privileged.

This is an important occasion, most especially for all of you who are graduating today. It is always an extremely happy occasion for your family for it can mean changing you and your family's everyday lives forever. It may mean promotion in your work,

an inspiration to take further studies, a change in your career paths or a moving ecstatic moment of self-fulfillment. One thing sure—your family is proud of you. Just like you, I'd like to believe my family is proud of me becoming the third Chancellor of UPOU—aside from my husband and children, my mother, my sister and brother, my mother-in-law and sisters-in-law and their husbands, my aunts and uncles, cousins, nephews, and nieces. In fact, I think half of the people in the theater are my relatives.

My mother was a schoolteacher. Before the war she went to UP and when the war broke out, she was not able to go back to UP. That was probably why she chartered her children's academic life so that we would be graduates of UP. My sister is a Doctor of Psychology, teaching in our university and married to the dean of the College of Law. My brother took Engineering and Master of Business Administration (MBA) in UP, married to a doctor who likewise graduated and taught in the UP College of Medicine. My two sons are both graduates of UP. And my husband teaches MBA in De La Salle University. My father was likewise a teacher at the Philippine Military Academy when he was still a young military officer. As you can see, I am as proud of my family as I'm sure they are of me. They are all believers in education. We, who are in this hall, are all believers in education… That is why we are gathered here today.

I have mentioned family many times because it is part of the vision of touching the lives of Filipinos by the University of the Philippines through its cyber campus, UPOU. To envision is to imagine. Imagination has created nations and cultures. To imagine is to construct the form of our vision in our minds and to crystallize in our minds the blueprint with the corresponding methodologies to make things happen. Just as you have imagined that one day you will march with your "sablay" and be part of the 2007 class of UPOU. At that time, it may have been difficult to imagine since you had too much work at the office, too much chores at home, cannot even leave your homes for school. But you imagined and constructed your blueprint for survival which you followed and now you're here. Yes, it all started with a vision.

Imaging, visualizing, and constructing the vision is really imagining. And imagining excites us, makes our hearts beat faster, and makes our minds fertile. To imagine that one day we would have operationalized the vision of having one member of every Filipino family becoming a learner of UPOU. This is the vision we want to concretize and what we want to achieve. Today, living in a country of many islands is no barrier to quality education and Filipinos living abroad can likewise access the same quality education. It is, therefore, not unrealistic to imagine having a critical mass of the population becoming learners of the UP through UPOU through its diverse formal degree programs and non-formal courses. Today, we are witnesses to an emerging culture of distrust where violence becomes a justifiable means to alleviate societal pains. This concretized vision can help in building a nation where critical thinking becomes a way of life and where such thinking can help lessen national traumas and national hysterias, just like the past elections. With a great number of Filipinos armed with education and not with guns, we can hopefully bring together the minds and the political will of those who can make this envisioned scenario happen.

With the digital communication culture in our midst, academics are now turning to hypertext, hypermedia, and hyper-multimedia. Open and distance learning has become a major resource and a venue to explore alternative pedagogies, andragogies, and methodologies for effective teaching and learning.

Our teachers and learners are redefining concepts like teaching, learning, knowledge creation, knowledge products, scholarly dialogue, connectivity, interactivity, and socialization. Academic communities, both national and international, are exploring potential growth areas in research, instruction, and extension with the use of appropriate technologies.

Allow me to reiterate what UPOU stands for.

The vision of UPOU runs parallel to that of the UP System, expressed in the following statements:

UPOU is for academic freedom. The faculty and students are part of the community of scholars pursuing their chosen fields of study. Their individual freedoms are respected. They are given the space, the venue, and resources to pursue their studies and researches and be able to present their work to the academic community.

UPOU is "a learner-centered" university where students are fully supported with course materials, e-library resources, tutors, and faculty to enable them to fulfill their academic presentations and requirements in their fields of study. The outcome of works by students and faculty can be shared without fear not only with the academic community, but also with other communities and our society in general for the benefit of our Filipino people.

UPOU is committed to academic excellence. UPOU faculty and our faculty affiliates as faculty-in-charge are committed to academic excellence. Exemplary and excellent course materials are produced by the best in the subject matter and field of study, and supported by an outstanding battery of instructional designers, editors, readers, graphic artists, and media specialists. Qualified and well-trained tutors as facilitators of learning are also a requisite to an outstanding open and distance learning institution.

UPOU is responsive to the changing times. When there are possible uses of eminent, available and established concepts, ideas, pedagogies, methodologies, and technologies that are born out of these changing times, the academics of UPOU study, research, experiment, develop, apply and again study, research, and theorize on them. Studies as media specialists, instructional designers, subject matter specialists, writers, and readers are the academics' way of life in UPOU.

UPOU is for the people and about people having wider access to quality education. The concept of equity, reaching those who otherwise will have no access to quality education, is of import. As part of the premier university, it is our mandate to commit ourselves to the offering of continuing formal and non-formal programs in response to the need of the Filipino workforce. UPOU is for those who cannot leave their work or their home because of schedule or some disabilities. UPOU will provide them access to undergraduate and graduate education programs they require or desire. This contributes to our efforts of creating a more humane society.

UPOU is committed to contributing to the uplifting of the quality of tertiary education in the country. Most of our students and graduates are academics teaching in other educational institutions. The distance mode of delivery enables teachers in the tertiary level to take their courses and upgrade themselves as they continue their own teaching tasks. Immediate application of new knowledge in their fields of study necessarily contribute to better tertiary education in the country.

UPOU has the important role of helping create the culture of excellence and equity in our academic community. Traditionally, it is thought that there is a seeming mismatch of the concepts of excellence and equity. Schools of higher learning have been described as elitist institutions exclusively for those who are already highly literate, learned, and knowledgeable, not for those who want to become more literate, learned, and knowledgeable. But this reputation may be born out of lack of slots or space in the traditional mode of face-to-face delivery of education because there are times when even the qualified are disenfranchised. Open and distance learning extends the space and creates wider access to quality education to those who are marginalized because they cannot afford to locate themselves near the university, or cannot afford in terms of time to leave their workplace, or some other reason like disability, or simply cannot leave home because of taking care of children or perhaps they are stationed abroad; but certainly not because they are less qualified. The act of opening access is empowering the learner.

Concepts of open learning philosophy and distance education create countless possibilities. As we open the gates, we must then solidly construct the culture of excellence as a strict requisite for open and distance learning. UPOU will have to see itself at the forefront of an academic environment with vast changes in technologies to be incorporated, designed, and used for true scholarship and academic rigor. There will be no compromise in excellence, in scholarship, in teaching, in research and, more specifically, in the methods and systems that help in making people teach, learn, work, and succeed in their chosen fields. The quality of courses stay the same, the quality of the modules stay the same—written by only the best scholars in the field of study, where the tutor facilitates with the same academic rigor, and the faculty-in-charge maintains the same standard of excellence as in the residential mode. Excellence and equity can certainly go together, most especially during these exciting digital times when academic texts are carried by hypertext, hypermedia, and hyper-multimedia. So, let me say again, open and distance learning

necessarily becomes an option and a venue to explore alternative pedagogies, andragogies, and methodologies for effective teaching and learning.

As we seek equity and excellence in our own academic environment, we seek the same for our communities, our nation, and even beyond, reaching our fellow Filipinos abroad through open and distance learning. We see the potential of taking advantage of our edge in being the "textingest" nation in the world. We see Filipinos not averse to new technology and to exploring the Internet access to the libraries of the world and to participating in the creation of new knowledge in pursuit of equity and excellence as I always say with passionate advocacy.

To you UPOU graduates, it is not the end of your UPOU life. You must continue the connectivity to our university.

This coming year is the UP centennial year which means we are celebrating our university's 100 years of being the venue of the *Iskolar ng Bayan*. And that is you. *Ikaw ay Iskolar ng Bayan*. *Dahil sa taxes na ibinabayad nating mga Pilipino, hindi kayo nangailangang magbayad ng* 30 to 40 thousand pesos per semester or 40 thousand pesos per trimester for quality education. (Because of the taxes paid by Filipinos, you did not have to pay Php 30,000-40,000 per tri-semester for quality education.)

You are very fortunate to graduate from our university with its long and rich tradition of pursuit for excellence and equity, as I am fortunate to serve as the third chancellor of UPOU. To the Board of Regents, President Roman, and my colleagues in the university, I will, in turn, together with my colleagues at UPOU, do our best to help in making sure that open and distance learning does its part in assuring academic freedom and academic excellence, in widening the access to quality education, in strengthening the Filipino workforce and in the betterment of tertiary education in the country—all these to help construct a culture of excellence and equity in and through distance education for a more just, democratic, and humane society.

To the 2007 graduating class, my utmost admiration because as UPOU graduates, it takes a tremendous amount of self-motivation and self-discipline to go through your course work and your rigorous learning process.

UPOU is the Center for Excellence in Distance Education and our university is the E-learning Competency Center of the Philippines. And as we are proud of our institution, we are proud of you, our graduating class. You are part of the story of our prestigious university. Now you have seen and felt the true value of imagination and imaging a vision. And you have attained this vision through continuing your education and the bettering of the lives of your family and that of the people in your community and your country. Let us, therefore, continue to promote the culture of lifelong learning.

*Sabihin ninyo sa inyong mga kamag-anak, kapitbahay at ka-trabaho na magpatuloy sa pag-aaral at sa ganoong paraan, kayo'y nakatulong na sa pagtataguyod ng isang matatag na sambayanan*. (Tell your families, neighbors, co-workers to continue learning so that you may all help build a strong society.)

*Mabuhay sa ating lahat*.


## The UP Open University in These Changing Times: A Vision Paper

5 January 2007

As the University of the Philippines (UP) approaches its centennial year in an environment that is being redefined and reconstructed by the digital era, academic texts in print are partially migrating into other forms as found in hypertext, hypermedia, and hyper-multimedia. Open and distance learning necessarily becomes an option and a strong potential as a major resource and venue to explore alternative pedagogies and methodologies for effective teaching and learning.

These are important times. Today, we find teachers and students redefining concepts of teaching, learning, connectivity, interactivity, and socialization. Academic communities, both national and international, are exploring potential growth areas in research, instruction, and extension with the use of appropriate technologies.

The UP Open University (UPOU) will have to see itself at the forefront of an academic environment with vast changes in technologies to be incorporated, designed, and used for true scholarship and academic rigor. There will be no compromise in excellence in scholarship, teaching, research, and more specifically, in the methods and systems that help in making people teach, learn, work, and succeed in their chosen fields.

The vision of UPOU runs parallel to that of the UP System expressed in the following statements:

*UPOU is for academic freedom*. The Faculty and students are part of the community of scholars pursuing their chosen fields of study. They are given the space, the venue, and resources to pursue their studies and researches and be able to present their work to the academic community. UPOU is a "learner-centered" university where students are fully supported with course materials, e-library resources, tutors, and faculty to enable them to fulfill their academic presentations and requirements in their fields of study. The outcome of works by students and faculty can be shared not only with the academic community, but also with other communities and our society in general for the benefit of the Filipino people.

*UPOU is committed to academic excellence*. The choosing of outstanding faculty committed to academic excellence and the application of strong programs for the retention of the chosen faculty is a necessary and important process. Exemplary and excellent course materials are produced by the best in the subject matter and field of study and supported by an outstanding battery of instructional designers, editors, readers, graphic artists, and media specialists. Qualified and well-trained tutors as facilitators of learning are also a requisite to an outstanding open and distance learning institution.

*UPOU is responsive to the changing times*. When there are possible use of eminent,

available, and established concepts, ideas, pedagogies, methodologies, and technologies that are born out of these changing times, the academics of UPOU study, research, experiment, develop, apply and again study, research and theorize on them. Studies as media specialists, instructional designers, subject matter specialist, writers, and readers are the academics' way of life in UPOU.

*UPOU is for the people and about people having wider access to quality education*. The concept of equity, reaching those who otherwise will have no access to quality education, is of import. As part of the premier university, it is our mandate to commit ourselves to the offering of continuing formal education in response to the need of the Filipino workforce. UPOU is for those who cannot leave their work or their home because of schedule or some disabilities. UPOU will provide them access to undergraduate and graduate programs they require or desire. This contributes to our efforts of creating a more humane society.

*UPOU is committed to contributing to the uplifting of the quality of tertiary education in the country*. Most of our students and graduates are academics teaching in other educational institutions. The distance mode of delivery enables teachers in the tertiary level to take their courses and upgrade themselves as they continue their own teaching tasks. Immediate application of new knowledge in their fields of study necessarily contribute to better tertiary education in the country.

*UPOU is part of the UP System and, therefore, part of its direction runs in partnership with the other constituent universities of the UP System*. As UPOU will continue to strengthen its own academic programs, there will also be support for new interdisciplinary and inter-university programs to enrich course offerings of both UPOU and the other constituent universities.

In summary, I would like to reaffirm the vision that UPOU is a university committed to academic freedom, academic excellence, widening the access to quality education, the strengthening of the Filipino workforce and the betterment of tertiary education in the country through open and distance learning for a more just, democratic, and humane society.

To bring the university nearer to its vision, the UPOU Chancellor will be placed in a situation to work towards the realization of the following goals:

1. *To facilitate the strengthening of the academic programs*. This may be implemented through a revaluation of the program offerings of the different Faculties and evaluation of new course offerings in partnership with the other UP constituent universities willing to invest resources in the development of the interdisciplinary and inter-university courses and programs.

2. *To redesign course development processes*. Most of the courses have been offered for the past five years and some even for the past 11 years. UPOU's course materials need to be evaluated and revised. The focus on online delivery will likewise redefine the changes in form and instructional design.

3. *To institutionalize a strong research, publication and other forms of research dissemination programs lodged in the different Faculties*. The Faculty of Education, Faculty of Information and Communication Studies, and Faculty of Management and Development Studies will likewise conduct their colloquia and/or series of seminars by the members of the Faculties; faculty affiliates; and research, extension, and professional staff (REPS) that will be fully documented and accessed through the web by students and the other publics. Faculty and researchers' attendance to international conferences as paper presenters for research dissemination will be encouraged and supported. The publication of refereed journals, one for the Faculties, and another on open and distance learning, will be launched and sustained. There must be active publications on open and distance teaching and learning concepts, information and communication technologies, and their pedagogical implications. It is likewise important that the studies are grounded on Philippine experience, nationalist in perspective, and can then be contributions to a global dialogue on open and distance teaching and learning.

4. *To strengthen linkages with reputable national and international educational institutions, universities, and organizations*. There will be exchanges of resources and such institutions

may be possible venues for learning and testing centers. International linkages help in establishing student support structures for our foreign students, which is a potential growth area.

5. *To institutionalize academic programs that will directly thicken the literature and studies in the discipline of open and distance learning and e-learning in the Philippines*, for example, Masters in Distance Education and Bachelors of Arts in Multimedia Studies. The eventual graduates of these programs will likewise contribute and support the development and strengthening of open and distance learning institutions, UPOU in particular.

6. *To develop a comprehensive faculty and staff development plan*. The key to a well-oiled institution is the maintenance of exemplary faculty and staff. There must, at the same time, be a high satisfaction rate among its people. Well-thought-of career path for each personnel is necessary to lessen the high turnaround rate of personnel in the university in general and, in particular, that of personnel in the fields of IT, multimedia, and other related fields. Full-time faculty must be fully supported in pursuing further studies. Both the faculty and REPS must be given support and grants to pursue their researches.

7. *To rationalize the university's human resource to address the changing needs of the university as it enters into a fully online mode of course delivery*. There is a need to establish the Offices of Research and Development, Student Support Services, Course Delivery under the Office of the Vice Chancellor of Academic Affairs. Strengthening of the Management Information Systems Office under the Office of the Vice Chancellor for Finance and Administration is an urgent step towards developing new systems applications. The Multimedia Center and Office Academic Support Services will likewise be part of the rationalization efforts as more and more course materials are developed for print, multimedia, and online.

8. *To update and equip the various offices with hardware and software requirement to bring UPOU at par with the leading international e-universities*. For maximum student connectivity and interactivity from any location, UPOU will have to be able to deliver with ease, efficiency, and accuracy the following services: viewing of academic records by students; viewing of the results of examinations and tutor-marked assignments (TMA); availability of constant technical support services, access to IVLE (e.g., course guides, discussion forums, workbins); access to e-library; access to e-mail; use of e-conferencing services programmed by both students, tutor, and faculty; access to counseling; access to the registrar and other pertinent offices. The goal should include the construction of an Interactive Conferencing Center that may be used as theater/hall and will be used as the hub for interactive videoconferencing and a venue for viewing and conducting seminars and workshops that will be fully equipped with facilities for national and international conferences.

9. *To establish an alumni relations office that will keep track of our graduates and organize them into active communities of UPOU*. This will become a major feedback mechanism on how UPOU has affected and inspired individuals, groups and eventually, institutions, and communities through our graduates who are now affecting others as they live out their everyday lives.

10. *To strengthen and solidify UPOU's relations with the UP System by conceptualizing, formalizing, and implementing some programs that would be of mutual benefit to both*. These can be made operational by having our faculty and staff actively involved in System-wide committees and projects.

There may be other matters that I may have missed in my enumeration of measures to be taken but I am positive that the enormous experience and wisdom of those who are with UPOU will fill up the missing parts and complete the picture.

As Chancellor, I assure my colleagues that I shall be hardworking and will perform my duties with transparency, honesty, and courage. I shall be a good listener and dialogue will be given importance in everyday operations. I shall clearly imprint in my mind that the final goals and the plans that we will eventually set must be achieved.

But to be able to achieve these goals, it is of utmost importance that all sectors—the officials, faculty, and staff of UPOU take part collectively and be generous in the efforts of drafting a

blueprint for UPOU operations using the above 10 set points and goals aligned with the vision as guides. I believe that this blueprint, if successfully implemented, will be responsive to the challenges that are presented by these changing times.

## Quality Assurance in Distance Education

22 April 2008

It is an overwhelming experience to travel almost around the world to be with such a distinguished group to talk about quality assurance (QA) in distance education, which is very close to our hearts and minds. I am here representing the Asian Association of Open Universities (AAOU) to share with you the Asian experience, particularly that of two Asian universities, on the following aspects:

1. A discussion of a university of distance education in Asia where quality is pegged to the standards of a dominant residential university culture: the University of the Philippines Open University (UPOU).

2. A definition of present QA practices as seen in Universitas Terbuka, Indonesia, which is undertaking an identification of future parameters of quality distance education towards a culture of excellence in open and distance learning.

3. A presentation of the Asian regional efforts to define and redefine standards of excellence and quality as performed by AAOU as it globalizes and internationalizes its unique experiences in a multi-cultural teaching and learning environment.

4. A sharing of some applications and practices that consider the changing times by tapping the open web resources as seen in the policies and guidelines on transnational education of the Commission on Higher Education (CHED) of the Philipines.

Let me present the QA models of Universitas Terbuka (UT), Indonesia, a mega-university in Asia that is taking steps to consistently improve the quality of instructions and delivery of programs, and those of UPOU, which has a relatively small learner population.

UT has a student population of more than quarter of a million or 320,000 students all over Indonesia. UPOU has fewer learners, 85 percent of whom are enrolled in 20 post-baccalaureate studies like diploma, master's, and doctoral degree programs. The rest are taking an undergraduate Associate in Arts program and Bachelor of Arts in Multimedia Studies. The latter is UPOU's lone baccalaureate program, which took six years to develop and is focused on theorizing and applying latest technologies confronting society. The student population of UPOU is a lean 2,300 students with 95 percent of its courses offered online and with online tutorials.

I hope to be able to provide you with a brief but concrete perspective of the diversity of QA models that exist in our region.

**Universitas Terbuka**

A recently released paper on WQA states that UT continuously improved the implementation of the quality management system by adopting and contextualizing the draft AAOU QA framework and by launching its own QA program. Guided by the AAOU framework, UT's Quality Assurance

System Committee focused on quality assurance in coordination with UT's high officials; they agreed and stated these in Sistem Jaminan Kuaqlitas or SIMINTAS.

QA activities aimed at improving higher education on the institutional national, regional, and global levels have taken a great deal of commitment on the part of all the UT administrative staff. UT looks at agencies such as the European Network Of Quality Assurance (ENQA), International Network of Quality Assurance Agencies for Higher Education (INQAAHE), United Nations Educational, Scientific and Cultural Organization (UNESCO) as institutions with which to work and share information on quality standards, benchmarks, and best practices. The establishment of a QA Center and the adoption of the QA Framework have taken UT at a higher level in their QA system. This model focuses on the operational steps taken for QA.

The QA policy manual developed using a modified AAOU framework to help member institutions in their QA system later became known as the QA Policy Manual, which comprises best practices for policy and planning, human resource recruitment and development, management and administration, learners, program design and development, learning support, assessment of student learning, and media for learning.

Self-evaluation and priority setting for quality improvement deal with quality indicators that are converted and integrated into self-evaluation instruments; consensus; a step-by-step self-evaluation approach through the different levels; and identification of strengths, achievements, and weaknesses.

Development of the QA job manuals involves the following: shared opinions about priorities through perceived importance and perceived quality; documentation of all systems, mechanisms, and procedures; articulation of well-defined and clearly stated procedures and records of activities and work instructions; and the interrelationships between individual units and other units mapping and showing flowcharts of activities.

As of December 2005, UT has developed 198 job manuals to guide various tasks. These tasks entail implementation and revision of the QA job manuals and the continuous evaluation of the QA implementation.

One task is the implementation and revision of the QA job manuals that deals with a roadmap pertaining to UT's collective future through articulation of UT's vision as a distance education university. It entails making all UT staff understand what is expected of them in performing their daily task; encouraging the staff to reflect critically on the procedures and practices for work activities to be incorporated in the new quality standards; and providing learning and training opportunities for the staff.

On the other hand, the task of continuous evaluation of QA implementation requires a significant change in the collective mindset and work culture of the institution toward supporting QA as a way of life. Also needed is the development of an appraisal system with clearly defined job descriptions and objectives, clearly defined performance standards, fair assessment procedures, an equitable appeal process, an incentive system based on performance and confidential feedback system. Lastly, the production of highest quality open and distance learning (ODL) products should be in order.

UT officials believe that quality is a perception that has to be validated and verified by external evaluators. UT invites quality assessors from external agencies to assess overall performance. Such agencies include the International Council for Open and Distance education (ICDE), International Standard Agency (ISA), International Organization for Standardization (ISO), and National Accreditation Board for Indonesian Higher Education (BAN-PT).

In its QA, UT has concentrated on administrative matters that play a large part in the everyday operations of a mega-university. UT operates largely as a print-based university as many universities in ODL do. Asian universities may, however, be classified according to the different modes of delivery. The universities whose student populations are in the millions are using television and radio as their major delivery systems. We may see in the future pockets of migration into computing, especially in the areas of engineering and some fields of communication. In today's changing times, to address the changing ways of how young students think, particularly those who are exposed to the vast resources in the Internet, and the cropping up of many knowledge centers

lodged outside of the university environment, universities—both residential and distance mode—are continuously examining the changing technologies.

**UP Open University**

In the Philippines, Ateneo de Manila University and De La Salle University (both leading residential universities like other constituent universities of UP) regularly validate the quality of their education through standards of a print-based delivery system. At the same time, these universities have also looked into computing for the delivery of some of their courses and have continued to study the existing resources in this changing environment.

Our experience at UPOU, which is known for its pioneering work in open and distance learning in our country, is vast. UPOU has been declared by CHED as the National Center of Excellence in Open Learning and Distance Education in recognition of its achievements in the field and its vital role in pushing the frontiers of learning in service to the Filipino nation. UPOU had been presented to different universities in the Philippines as an ODL institution. It has likewise been declared by the Commission on Information and Communication Technology (CICT) as the E-learning Competency Center of the Philippines. The fifth constituent university of the UP System, which is known as the premier university in the country and will celebrate its 100th year this year, has the reputation of educating the best minds in the country who are meant to be its leaders. The UP System has very strict entrance prerequisites so that out of 75,000 entrance exam takers, only about 12,000 students qualify each year.

The Philippines is known in the region for its strong academic environment, being the host country to thousands of foreign students, mostly coming from the United States, Korea, Taiwan, Indonesia and China. The use of English as the medium of instruction in our higher education is one reason for the country;s attractiveness as an educational destination in the region. The Philippines has constructed a dominant residential higher education environment. This is due to the Filipino culture in which it is second nature for parents to envision their children pursuing a college degree or higher education. The Philippines has a population of about 90 million we have 1,800 institutions of higher education, of which 175 are government-funded. UP gets the largest funding from our government.

At the regional level, to continuously grow as an open and distance education institution, UPOU has been an active member of the Asian Association of Open Universities (AAOU) for almost a decade. UPOU is a member institution of the AAOU management team this term. It is our mandate to come together regularly for conferences and to create stimulating discussions on distance learning in Asia.

The AAOU comprises 71 member institutions of higher learning in Asia, and it attempts to bring distance education academics, administrators, and students in a continuing dialogue to exchange ideas, developments, and experiences to thicken the discourse in open and distance learning.

UPOU aims to:

- Widen access to quality education.
- Help uplift tertiary education in the Philippines.
- Offer, through open and distance learning, degree and non-degree programs that are responsive to the needs of learners and of society.
- Develop a system of continuing education to sustain professional growth and promote lifelong learning.
- Develop and adapt delivery systems appropriate to distance learners.
- Provide leadership in the development of open learning and distance education in the country and in the appropriate use of information and communication technologies for education.
- Make instructional packages accessible to various publics through collaborative arrangements, institutional agreements, and other appropriate mechanisms.

UPOU started with QA as part of its pioneering years, in close partnership with UK Open University (UKOU) and Simon Fraser University (SFU) through their visiting scholars in open and distance learning. It developed its programs with academic excellence in mind. The consistent exchange with other ODL institutions and with the conduct of external evaluation by distance education experts furthered the university's deepening openness to the concept of QA, which is a given in the environment which has become a way of life and a primary concern of the UP System. UPOU had to

prove that its academic offerings are at par with the UP System standards applied across all its constituent universities where academic excellence and academic freedom are battle cries.

Rigid faculty selection process and student admission policies, and the establishment of a strong tutorial system with full-time faculty coming from the different UP constituent universities as tutors have set a healthy environment for open and distance learning. An automatic assessment system gives immediate feedback on quality of materials, course design, and the course guide which reflects on the faculty and the quality of their tutorials. The Office of Academic Support and Instructional Services (OASIS), which was created when UPOU was established, is in charge of a well-oiled production system of modules and printed materials. On top of this is the creation of a "Quality Circle" per course, each composed of the subject matter specialist (with the leaders in the field as writers), subject matter editor (reader or critic), language editor, and media specialists. The quality of production of the printed materials has been regularly and automatically checked through regular revisions and updating. The Multimedia Center was established for the production of videos, interactive materials like CD-ROM, and MyPortal, a learning management system that was cited as one of the Top 10 Practices in Digital Applications during the ADOC (APEC Digital Opportunity Center) conference in Taiwan. MyPortal was cited for its online delivery system that has shifted from the use of integrated virtual learning environment (IVLE) to Moodle and is now studying the merits of moving into a combination of platforms.

For QA of program offerings, a Program Review is regularly implemented to improve the offerings of UPOU through an assessment of the relevance, effectiveness, and quality of the academic, administrative, and other parameters related to its programs.

Specifically, the Program Review aims to assess the Programs based on the following parameters:

- Relevance, competitiveness, and sustainability of the programs in relation to the changing demands, developments, and concerns in the milieu where they operate
- Effectiveness of the courses, course materials, course design, and delivery modes in widening access to lifelong learning
- Effectiveness of the faculty in reaching out to the students and professionalizing and enhancing their competencies
- Quality of the policies, management procedures, and other processes related to admission, retention, graduation, tracking, and monitoring of students' performance
- Overall contribution of the program in fostering academic excellence, widening access to quality education, and betterment of tertiary education through open and distance learning

The Program Review also aims to identify problem areas and strategic recommendations, solutions, and directions in the future.

As we move to going fully online in course delivery, we consistently review our programs and make sure that our faculty members are well-trained in the changing technologies; UPOU relies on the individual faculty's efficiency and academic excellence. Becoming fully online in course delivery means that the physical classroom conversation, dialogue, and interactivity will become direct interaction with the faculty and will rely more on resource-based generated materials or links to existing materials in the e-libraries on the web. These are now more open and the interactivity and online voices are now the main generators of academic text.

This set of parameters apply to existing courses. Pushing for new programs to go through a longer process of evaluation as it goes through the scrutiny of the curriculum committee, the UP President's Advisory Committee, the University Council (where all faculty members and affiliate faculty members are represented), and finally, the Board of Regents of the UP System.

UPOU also has to be internationally at par with its foreign counterparts. We have overseas students coming from 33 different countries. This brings us to the topic of transnational education. The transnational scene in distance education has entered the country's higher education environment. For transnational education providers in the Philippines, CHED has come up with policies and guidelines for foreign higher education in distance education providers. Annex 1 contains the full text of the CHED policies and guidelines, which may have salient points that may be of interest to this body.

In terms of transnational higher education in the ASEAN region, some members of AAOU have

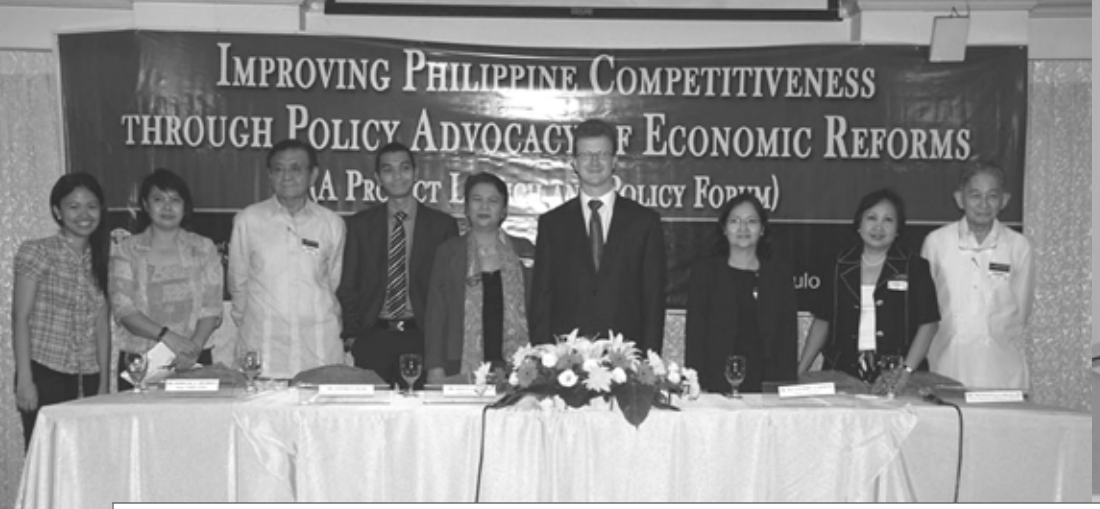
come together for a kick-off meeting on the development of a program to be offered by the different universities to their own set of learners. This is the Master of ASEAN Studies that is now on the drawing board.

I have presented to you the practices of two Asian universities, that of UT Indonesia and UPOU. The lean student population of UPOU seems to show stringent qualifications and requirements for student entry, making it seemingly not open. Thus, it has to be qualified that the numbers we show are official student population in formal degree courses. However, it has students in the Continuing Education Program that offer short-term and non-formal courses that only require a high school diploma or its equivalent, though this is not a significant number. With our meager resources, we opted to put our resources in higher education. As a university, UPOU pushes for a strong research agenda and its programs are geared towards producing studies, theses, dissertations, publications and the like for each particular area or field of study. UPOU's Master of Distance Education program is likewise intended to widen the discourse and produce studies that will contribute to the gamut of knowledge in ODL grounded on Philippine experience. With the recent addition of the Bachelor of Arts in Multimedia Studies, we hope to contribute to the field of multimedia that has now been identified as a growing field of study due to the expanding and changing environment in this digital age, most especially with the presence of broadband as a vast resource.

Being in this congress and summit, there are concerns raised by UPOU that this body might wish to address. These are:

1. An accreditation system to combat the proliferation of distance education service providers that are not university- or higher education-based but present themselves as recognized educational institutions for higher learning.
2. The need to organize scholars who are distance education practitioners into professional associations in instructional design and media specialists in the field of multimedia, new media, and learning objects production for the web, so that our universities may engage them in the future.
3. The need for universities to leap frog into the future and see the potential of online delivery and consider the implications of Web 2.0. If our institutions do not address this today, knowledge centers that are commercially driven will flood the distance education environment and may erode the years of investment in the good reputation that open and distance learning painstakingly gained through its many years of existence.
4. The establishment of centers of digital learning in our universities to create strong research agenda, which include studies on use of technologies for distance teaching and learning pedagogies/andragogies as well as methodologies that show academic rigor and scholarship to catch up with this fast-changing times and for us to eventually do regular exchange of resources and collaborative work.
5. The creation of a strong association of e-librarians, e-curators, and e-scholars helping develop academic standards of e-materials as guidelines and policies in tagging the voluminous texts in the Internet for efficiency in exchange of resources in this area.
6. As there is a strong potential of harnessing voices and images of transnational intellectuals and scholars who are backed up by their well-researched materials, these must be produced and turned into podcasts and multimedia for broadband as sharing texts. In fact, we will see the birth of transnational intellectuals as superstars mainstreaming well-prepared and researched materials as contributions of universities to their respective communities and the world.
7. The need to study research itself; that dissemination, data gathering and data construction through digital/multimedia means as major parts of e-research will gain prominence in this environment. Our research institutes and centers may want to explore linkages with numerous research communities that have become seriously involved in many major collaborative studies.
8. The need to study concepts of intellectual property rights, royalties, and copyrights in an environment with very open and collaborative creation of texts; the concept of authorship is a thick discourse by itself.

Thank you.





## UP Open University: Entering the Fifth Generation of Open and Distance Learning and Building Global Knowledge Communities in the Changing ICT Environment

19 September 2008

This is an attempt to describe the four generations of open and distance learning (ODL), and the move into the fifth generation, as seen in the UP Open University (UPOU) experience. I shall likewise attempt to situate the university in terms of its transnational education status in Asia and the directions and the new challenges it faces as it enters internationalization and globalization scene in the information and communication technology (ICT) changing environment.

UPOU's vision has remained the same but has gone through some clarifications through its 14 years:

*UPOU is for the people and about people having wider access to quality education.*

The concept of equity is reaching those who otherwise will have no access to quality education. This brings the open learning philosophy in focus, reaching those who are marginalized, giving people the right to participate in all aspects of life as expected in a democratic society.

The learners and teachers are given the space, the venue, and resources to pursue their studies and researches. UPOU fully supports its learners and provides them with course materials, e-library, and multimedia resources, tutors, mentors, and teachers to enable them to fulfill their scholarship in their fields of study.

*UPOU is committed to contribute in uplifting of the quality of tertiary education to create a culture of excellence, making sure that what is exercised are academic freedom and critical thinking, and freely exploring and managing knowledge.*

Most of our students and graduates are academics teaching in other educational institutions. The distance mode of delivery enables teachers in the tertiary level to take their courses and upgrade themselves as they continue their own teaching tasks. There is immediate application of new knowledge in their fields of study.

The university sees itself at the forefront of an academic environment with vast changes in technologies to be incorporated, designed, and utilized for true scholarship and academic rigor. There will be no compromise in excellence in scholarship, teaching, research and, more specifically, in the methods and systems for ODL.

The quality assurance of courses are closely evaluated and monitored. The UPOU distance education modules are written by the best scholars in their fields of studies. The tutors facilitate enhancing and upgrading the standards of knowledge creation in these exciting digital times when academic texts are carried by hypertext, hypermedia, and hyper-multimedia via the web.

ODL necessarily becomes an option and venue to explore alternative pedagogies, andragogies, and methodologies for effective teaching and learning as the university sets out the development of instruction, creating academic text co-created by teachers and learners delivered through various appropriate technologies.

*UPOU is committed to respond to the needs of the Filipino workforce, in the country and abroad, for those who cannot leave their work.*

It provides Filipinos access to undergraduate and graduate programs. UPOU has strengthened the Continuing Education Programs designed to address the need for retooling our Filipino workforce.

These programs are designed to update not only the skills of our learners, but also strengthen their ability to theorize, analyze and conduct research in their fields of study.

The teachers and learners with the open learning philosophy, using the distance mode with blended and flexible distance education methodologies, are guided to recognize that they are not only part of the community of scholars pursuing their chosen fields of study, but are likewise made very conscious of serving their communities their country and humanity through improvement of performance in work as they pursue lifelong learning.

**UPOU's Autonomy as a Constituent University in the UP System**

It must be noted that UPOU operates under a wider umbrella of the University of the Philippines (UP) System that has founded its roots on the residential mode but now looks at ODL as an alternative to the conventional residential mode while ensuring that quality of education is not compromised. Rather, it sees education as enhanced by well-designed and well-produced course materials, and innovative course delivery system that has concentrated on concepts of knowledge and resource management, and progressive faculty and tutors. At present, 85 percent of our programs are formal graduate degree (master's and PhD) programs.

UPOU is known for its pioneering work in open and distance learning in our country. UPOU has been declared by the Commission on Higher Education (CHED) of the Philippines as the National Center of Excellence in Open Learning and Distance Education in recognition of its achievements in this field and its vital role in pushing the frontiers of learning in service to the Filipino nation. It has likewise been declared by the Commission on Information and Communication Technology (CICT) as the E-learning Competency Center of the Philippines. As the fifth constituent university of UP, UPOU is keenly aware of the UP System's reputation of educating the best minds in the country who are meant to be its leaders. With UP's very strict entrance pre-requisites, only around 12,000 students qualify out of 75,000 entrance examinees each year.

The Philippines as a whole has constructed a dominant residential higher education environment. The Filipino culture is such that it is second nature for Filipino parents to envision their children pursuing a college degree or higher education. The Philippines has a population of about 90 million and we have 1,800 institutions of higher education, of which 175 are government-funded. UP gets the largest funding from the government.

As a constituent university of the UP System, UPOU finds itself in a position to create and formulate rules and policies that address its specificities. This environment gave UPOU a considerable amount of autonomy, making it possible for the university to grow within a UP System set-up.

**Shedding Off Some Residential Traditions and Embracing Its Quality Assurance Legacy**

The first generation of open and distance education at UPOU was an environment where courses were replication or mirror reflection of existing residential programs. It was dictated by the times. The university, in its initial years, was operating to tap some 13,000 faculty members who are recognized as leading scholars in their fields of study in the entire UP System as a primary pool of human resource.

The underlying philosophy still carried the residential mode's linear model of having the expert/specialist creating the modules in traditional media such as print, radio, and television. This, however, looked at print as the

dominant medium and left radio and television as supplementary materials. Radio and television were media that did not carry an on-demand concept and framework. While it had great potential in reach, the non-availability of airtime in an open-market media industry leaves very little room for education. In the latter part of this generation, videotapes and audiotapes eventually became the usable form of the video and audio productions as course materials.

Registration happens at that time in more than 25 learning centers all over the country. The Learning Center Coordinators ran the center in registration, proctored exams, and directly handled the distribution of course materials coming from the production and dispatch units which, for quite a while, were the responsibility of the Schools for Distance Education and the Office for Academic Support and Instructional Services. Course delivery was the physical transfer of print course materials through packages sent by land and or air cargo or accompanied baggage. Student support services was identified as a separate function from the academic functions of the Faculty in the latter part of this first generation of ODL.

The faculty members were tasked with giving the course guide, exams, and grades. On the other hand, the tutors facilitated the once a month face-to-face sessions and conducted the tutor-marked assignments. Faculty and tutors, in some instances, travelled by land or by air, thus they were tagged as the flying tutors.

Administratively, in the past, a portion of the total budget was allocated to every School for Distance Education headed by a dean, and the disbursements went through the books of their respective constituent universities. Eventually, these funds were consolidated under the UPOU coffers. UPOU's unwavering push for quality academic programs ultimately led to the establishment of the UPOU Council, which approved all UPOU programs. Having gained autonomy in its fiscal managememt and with help from the UP System, UPOU started its way in making rules and policies that were uniquely its own.

**The Open and Distance Learning Culture: Mainstreaming the Alternative**

The second generation of open and distance learning at UPOU was witness to the publication and exciting production of print course materials. The supplementary videos continued but video courses became familiar and audiotapes were stand-alone materials. In terms of course delivery, print modules were sent directly to the students, thus relieving the learning centers of the task. However, there were still course materials being distributed through the learning centers, as experienced by students in the Philippines and Hong Kong, where first learning center outside the Philippines opened. UPOU later found that maintaining learning centers abroad was possible but the registration and tutorials were difficult to regularize. This started the global direction of UPOU. Maintaining learning centers abroad at that time was not economically viable as flying tutors became too expensive.

The widening use of computing and e-mail led to an easier communication system for the learning centers, teachers, and learners. As the connectivity and interactivity widened, there was a revaluation of the programs offered. The UPOU Council did not approve new programs; instead, it strengthened existing programs. There was active evaluation of courses that had indications of weak enrollment, problematic delivery, and weak student support. This led to a temporary freeze of enrollment in some these courses and programs. UPOU saw the need to integrate the Faculties with its academic concerns about student support services. This shift led to the abolition of the Schools for Distance Education categorized by location and created the integration of related programs and disciplines under the Faculties. In terms of administration, the academic concerns shifted to strengthening of the course delivery with the new set-up of the Faculties into more specific fields, taking the lead role in connecting with the learners.

**The Digital Divide**

The third generation of open and distance education at UPOU led to the strengthening of the academic programs as the final three Faculties were established. The Faculty of Education, Faculty of Information and Communication Studies, and Faculty of Management and Development Studies were actively involved in both academic and administrative developments. They likewise identified that course delivery and student support

are also major parts of the academic concern of the Faculties. UPOU's need to respond to learners who are unable to go to face-to-face tutorials was recognized, hence the active movement in developing a comprehensive online system. The migration to online tutorials and delivery meant the strengthening of the management information systems of the university. The coming in of the integrated virtual learning environment (IVLE) as a platform took effect and created the online connectivity of learners and teachers. UPOU is moving to go 100 percent online as this is the only way to reach learners who are in other countries and those who live far from learning centers.

This compelled the university to explore a more user-friendly platform in its course design and resource management wherein the faculty goes into integrating course design, course production, and course delivery into knowledge creation and management. Even as IVLE continues to serve as a platform, UPOU began to shift to the open source Moodle (Modular, Object-Oriented Dynamic Learning Environment) as platform.

In course delivery and student support, there was a clamor to open testing centers instead of learning centers, emphasis on e-library and UP System-wide iLibrary, and a push for modernization with the Multimedia Center as technical support provider.

UPOU is considered as the cybercampus of UP where you can register online, download forms, have tutorials online, and learners can view their grades online and be connected to administration, their faculty, tutors, and classmates through the web. This is the coming of age of the tech support group and the management of information systems.

**Acceptance of the Changing ICT Environment**

The fourth generation of open and distance education at UPOU arrived as the race to full online delivery was on and the move to address the digital divide was afoot. With an eye to becoming 100 percent online, there is, however, a need to be conscious of those who would be marginalized if the courses were delivered fully online. There are diverse sectors that need either blended or flexible approach to distance learning. There is likewise a need to rethink the courses under continuing education programs that do not necessarily coincide with the semestral schedule. Concepts of on-demand scheduling of courses, on-demand entrance assessment tests, online payment for registration, and online book sales are partially implemented. The migration to open source platform Moodle entered the course development scene in UPOU. The Moodle connection became the start of the training of the whole UPOU community of teachers and learners in exploring the World Wide Web as the inexhaustible resource. There had to be active generation of text through multimedia and creation of hypertext, hypermedia, and hyper-multimedia to upload on the web and add to the resources that may be accessible to the wider communities. To UPOU, the primary clients are our learners who are in the country and all over the world. Teachers and learners are part of the academic community who are at the core of knowledge creation and management.

**Helping Build Global Communities through Open and Distance Learning**

The fifth generation of open and distance education at UPOU saw the widening of access to UP education and strengthening of the system for quality assurance in course development, course delivery, and use of ODL pedagogies for teaching and learning. Also apparent was the need to help build global learning communities. UPOU can contribute this through the following initiatives:

- In the field of developing course materials, aside from the usual writing of original text print modules and wrap-around print outputs, there is now a wave of enthusiasm into publishing of books and an active move towards Resource Based Course Packages or RBCP. This means that there will be active exploration of the libraries of the world plus the reservoir of knowledge and digital memories of our national and global communities through the web by the teachers and learners of ODL in line with a paradigm shift in theorizing on concepts of education and knowledge, taking the movement into a strong constructivist view. This will then create an exponential growth in text creation by teachers and learners.

- Training and retooling of new and ongoing distance education, open learning, and continuing education academics and professionals in new ways of collaboration with the rich multi-disciplinal talents in the fields of the arts, social sciences, and sciences to work on hypertext, hypermedia, and

hyper-multimedia in visioning, creating, and producing knowledge materials weaving into the ICT environment of connectivity, interactivity, and ubiquity.

- Non-stop development and improvement of management information systems for course delivery and resource based course development by creating and designing a combination of platforms appropriate for ODL.

- Development and designing of academic programs that respond to the changing times with focus on open learning philosophy as it relates to an education continuum, and where continuing education, tertiary education, and graduate and post graduate education become a range of multiple entrances and exits with varying certification.

- UPOU also has to be internationally at par with its foreign counterparts who pride themselves of having strict quality assurance systems. We have overseas students coming from 33 different countries and its numbers are growing.

The transnational education phenomenon and realities of foreign higher education providers have been part of the Philippine education environment for some time now. CHED has come up with its policies and guidelines on foreign higher education for distance education providers in the country so that all Filipino citizens may have access to quality and affordable education and to improve the quality and international comparability of higher education programs and institutions.

At the regional level, to continuously grow as an open and distance education institution, we have been an active member for almost a decade in the Asian Association of Open Universities (AAOU). This term, UPOU is a member institution of the AAOU management team. It is our mandate to come together regularly for conferences and to create stimulating discussions on distance learning in Asia.

The AAOU comprises 71 member institutions of higher learning in Asia, and it attempts to bring distance education academics, administrators, and students in a continuing dialogue to exchange ideas, developments, and experiences to thicken the discourse in open and distance learning. Student population of these Asian universities vary from about 2,000 to two million. And at the end of the list in the number of students is UPOU, which has the smallest student population. Nevertheless, we pride ourselves with strict quality assurance policies and guidelines. UPOU is likewise a member institution of International Council for Open and Distance Education (ICDE) and *Consórcio-Rede de Educação à Distância* (CREAD).

In terms of transnational higher education in the ASEAN region, some AAOU members have come together for a kick-off meeting on the development of a program to be offered by the different universities to their own set of learners—the Master of ASEAN Studies that is now on the drawing board.

UPOU sees the need to explore and expand the use of technologies in computing and the Internet, building national and global communities, designing new programs and appropriate pedagogies that will ultimately strengthen quality assurance in teaching and learning in the 21st century. These can be done by working closely with the global learning communities in helping organize universities to engage in collaborative activities in the Philippines and in the region in answering these following concerns in a changing ICT environment:

- An accreditation system to combat the proliferation of distance education service providers that are not university- or higher education-based but present themselves as recognized educational institutions for higher learning.

- The need to organize scholars who are distance education practitioners into professional associations in instructional design and media specialists in the field of multimedia, new media, and learning objects production for the web so that our universities may engage them in the future.

- The need for universities to leap frog into the future and see the potential of online delivery and consider the implications of Web 2.0. If our institutions do not address this today, knowledge centers that are commercially driven will flood the distance education environment and may erode the years of investment in the good reputation that open

and distance learning painstakingly gained through its many years of existence.

- The establishment of centers of digital learning in our universities to create strong research agenda, which include the studies on use of technologies for distance teaching and learning pedagogies, andragogies, and methodologies that show academic rigor and scholarship to catch up with this fast-changing times and for us to eventually do regular exchange of resources and collaborative work.

- The creation of a strong association of e-librarians, e-curators, and e-scholars helping develop academic standards of e-materials as guidelines and policies in tagging the voluminous texts in the Internet for efficiency in exchange of resources in this area.

- As there is a strong potential of harnessing voices and images of transnational intellectuals and scholars backed up by their well-researched materials, these must be produced and turned into podcasts and multimedia for broadband as sharing texts. In fact, we will see the birth of transnational intellectuals as superstars mainstreaming well-prepared and researched materials as contributions of universities to their communities and the world.

- The need to study research itself; that dissemination, data gathering and data construction through digital/multimedia means as major parts of e-research will gain prominence in this environment. Our research institutes and centers may want to explore linkages with numerous research communities that have become seriously involved in many major collaborative studies.

- The need to study concepts of intellectual property rights, royalties, and copyrights in an environment with very open and collaborative creation of texts; the concept of authorship is a thick discourse by itself.

This attempt to describe the five generations of ODL in the Philippines does not mean that they are completely separate from each other. Some aspects and elements of the first generation of ODL are present in today's practice of ODL. What has been consistent in UPOU's direction is openness in making use of appropriate technologies for different teaching and learning environments; and the respect and awareness of differences in the culture of teaching and learning in different locations, communities, and environments, which highlighted the need to use blended and flexible teaching and learning even when courses are fully available online.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## The Independent Spirit: Building a Culture of Open Source Software Development and Use

19 September 2009

I am always proud and unusually happy to be with people who stand for the alternative, the cutting-edge, the against-the-grain ways of thinking, questioning of the mainstream, and more specifically, those who believe in the independent spirit. This is the heart of having revolutionary ideas or having a place for the tamer concept of what we call as innovations—of being in the framework but expanding its boundaries. This is what we are celebrating today. We are all together to celebrate the Software Freedom Day!

To the organizers, the Bluepoint Institute of Higher technology Foundation, Commission on Information and Communication Technology, National Computer Center (CICT-NCC), thank you for making possible this venue for a continuing digital discourse and thank you for inviting me to speak in front of a distinguished group of men and women who have the passion to explore the unchartered or untrodden territories.

Why do we come together and have a time for sharing? It is a needed ritual. We need to tell each other that we are on the right track, to remind us of what we are building on, to inform us on what is happening, to reiterate the vision of where we are going. It is a ritual to make sure that the independent spirit will be sustained with ever burning passion of individual and community champions.

I would like to use as analogy for open source software development and use two areas I am familiar with—that of film. *Ako ay miyembro ng manunuri ng pelikulang Pilipino at* film professor *ng* film *na sumasanguni sa adhikain ng* independent filmmaking *at ngayon ay nasa* field *din ng* distance education as the chancellor of the UP Open University (UPOU). (I am a member of the society of film critics and a film professor who support the goals of independent filmmaking and who is now in the field of distance education as the chancellor of UPOU.)

*Ang* Indie films *at* distance education *ay parehong mga* pioneering areas. *Hanggang ngayon* extended *ang* pioneering years *dahil napakalakas ng* dominant culture. *Sa pelikula, ang* Hollywood *ang naghahari, isang* monopoly *dahil ang* distribution system *ay ang mga teatro* all over the world *na nakaangkla sa napakamahal na* celluloid projectors *at mamahaling* sound system operated by gigantic malls *na nangagailangan ng bulto-bultong kapital na sinasabayan ng mga* formula-driven films *ng ating sariling industriya ng pelikula*. *Pero dahil ang industrya natin gumagaya sa* Hollywood in terms of content *para ito ay madaling intindihin at ikunsumo ay hindi na rin ito maka*-compete. *Dahil dito, bumaksak ang dami ng ginagawang pelikula* from 220 films a year *ng ating industriya* in the 1990s to about only 30 today. *Noon, napakaliit ng puwang o* space *para sa mga* indie films.

(Indie films and distance education are both pioneering areas, and the pioneering years continue to this day because of the dominant culture. Hollywood reigns in filmmaking, a monopoly because of its distribution system covers theatres worldwide, anchored on expensive celluloid projectors operated by gigantic malls that require tons of capital investment along with formula-driven films of our own filmmaking industry. But as our film industry mimics Hollywood in terms of content to make our films easier to understand and consume, it could not compete. Because of this, the number of films the local industry produced annually plummeted from 220 films a year in the 1990s to about only 30 today. In the past, there was very little room for indie films.)

It is the same narrative with distance education. In higher education in our country, we have 1,800 colleges and universities. Of this number, 170 are government-funded, with UP, being the national university, taking the largest government subsidy. All of these higher education institutions are rooted in the residential mode of delivery. It is only UPOU that delivers its programs exclusively in distance mode and not only by distance but also in an online mode. UPOU, therefore, carries a strong advocacy for the alternative mode, distance education in a very dominant residential culture in higher education. We are driven to have solutions fired by the independent spirit. Our guide post to the solution is *yung "magaling at mura"*—good quality and low-cost.

Allow me to talk about some history by telling a snippet of a story about my husband.

In the younger days of my husband when IBM was the king, he and his group were the COBOL programming language experts. Those who know COBOL, raise your hands. Those who are raising their hands, I know how old you are. Things change and now he is the number one advocate in use of open source in his academic community. I think many of his colleagues are here. At the time, he was with the largest and strongest company in computing and this was the era when the computers were taller and bigger than the largest refrigerator. It was a time when the computer business was still mystified and there were only a limited seemingly special people who were developers and users. They would have this first generation set of guidelines or set A in selecting software to use and develop the largest, biggest brand possible; popularly used; user-friendly; and strong systems support from the company provider.

The attitude was to keep what we know exclusively ours. And developers and vendors would be selling their hardware, software, and services locking out the rest of the community, making it appear that the only thing that mattered was the vendee and the vendor. The large companies were racing to have that monopoly status. And to make sure that the industry makes the clients feel that their office solutions is such a natural direction to go, and that it is effortless to consume and use. Vendors make sure that the consumers leave the thinking to them and for those who use it to see only the easy part and are left in the dark in most parts of the process. The rest of what the consumers don't know remains a mystery. To deal with an incredibly large brand, you have to be prepared to pay large amounts of funds for it because you have to pay for the intellectual property rights solidly created by expensive advertising and a strong management set-up protecting the brand image.

*Ang mga naririto ngayon ay lagpas na sa pagkakaroon ng pananaw ng* SET A *maaring nasa* second generation *ang sinusunod na* guidelines na *gusto kong tawaging* "SET B" *ng paghahanap ng mga ginagamit na software sa kanilang-pangaraw araw na pangagailangan o ang pagdi*-develop *ay* usually *ang* standard *o ang batayan ay ang sumusunod*:

1. *naghahanap tayo ng mga pamamaraan na efisyente*
2. compatible *sa ating* existing platform,
3. *may* support *galing sa ating pinagbilan*,
4. *nagagawa ang gusto nating gawin*
5. *mura o libre*

(Those present here today are past the era when SET A was the model and may already be among the second generation who subscribe to guidelines that I would like to call SET B, whose search for software for their everyday needs or whose standard in developing software are as follows:

1. More efficient
2. Compatible with existing platform
3. Customer and technical support is available from vendor
4. Effectively performs tasks we want to do
5. Low-cost or free)

But today, given the existing environment, digitization is the standard, having the web as this unlimited space that is actually blank—nothing until you claim it—and you claim it by putting written, visual, and sound text on the web. Then these text that is in cyberspace automatically becomes a resource. *Parang panahon noong libre and lupa wala pang may-ari at mapapasaiyo ang lupa* when you stake a claim on it. *Ganoon na ngayon sa panahon ng* digital era. (It's akin to the time when land was still free and it can be yours when you stake a claim on it. It is the same way now in the digital era.) Your stake or instrument to claim is your digital texts. The virtual space is a resource that we feel is a basic right to be able to access it.

In our institutions, our connectivity in terms of local area network (LAN) should be secured. What about making use of the Internet where things can be free? How secure can we be? This is when controls come in, and the more control needed means more software to design, a demand on which industries are built. But is it possible to design software with the end view of sharing since, in the cycle, the ideas of those who have improved on your original concept may then be what you can use in your subsequent concept? Those who truly are advocates of open source software believe in this. And the guidelines can be what we can consider as the third generation of guidelines— the SET C:

1. Considers your institution's culture (this means shying away from the easy generic software)
2. Development is participatory (nobody is left in the dark; promotes critical thinking among developers and users)
3. Sharing is the mantra (which makes capacity building a given)
4. Inexpensive or free (aesthetics of poverty; encourages creativity and out-of-the-box thinking)
5. Technical support comes from the community of developers and users (if someone asks for help in chatrooms or forums, someone will respond; don't be afraid)
6. Maintain the view that each new application can contribute to the gamut of knowledge on open source software development and use (this then assures a continuing growth of a culture of quality and helps in the building of global teaching and learning communities on the development and use of open source software)
7. Keep in mind that we are a community of advocates and champions dedicated to a movement that will better the lives of our people in our communities and the world

Before ending my talk, let me go back to the story of the independent films. Today, our country is producing films of more than 300 titles a year. There have been films that come from the different regions using their own dialects. The digital camera has allowed the making of "*magaling at mura na"* (high-quality and low-cost) independent films that encourage people to think and many have won awards in international festivals. It is a whole new way of thinking in filmmaking. It has changed and empowered the filmmakers and has encouraged them to tell their stories the way they want to.

In distance education and e-learning, with the help of institutions like CICT-NCC, schools and universities who are moving towards technology-enhanced teaching and associations on e-learning and related institutions (e.g., Bluepoint Institute of Higher Technology Foundation) have built a strong community of believers. In the case of UPOU, we have moved to strengthen the university as a graduate university, as a research university and a service university. We have succeeded in going fully online, and grappled with our Moodle (Modular, Object-Oriented Dynamic Learning Environment) platform and tweaked it to our needs. We are now challenged by our open source choices. We are looking at Plone to be our scholarly social network for rich media and again engaging in our course development to be SCORM (Sharable Content Object Reference Model)-compliant, which is sometimes contradictory, making it an unending challenge to our faculty and staff.

The seemingly difficult digital paths must be addressed with tenacity and without fear. But all these create the rich, textured, and fulfilling atmosphere of scholarly discovery. These invigorating experiences all have helped UPOU's learners in gaining wider access to quality higher education and reaching those who are otherwise marginalized because they are working or cannot access education through the residential mode. Our reach has grown nationally and transnationally. Our students are spread out in the country and in more than 60 other countries all over the world.

The seven guidelines to remember that I have presented earlier are similar guidelines that we have taken, which are built and founded on respect for diversity, dedication to service, pursuit for excellence, and belief in the independent spirit. This digital era presents to us many possibilities and challenges. We must heed this call to face the challenges and make things happen in these exciting, rich, and changing times.

*Mabuhay tayong lahat at isang mapagpalayang araw sa inyo*!

## The UP System and UPOU: Some Reflections as the National University Enters Its Next Century

10 October 2009

In the University of the Philippines (UP) System Conference held in Subic last May, I witnessed the telling and inter-weaving of convergent and, at times, divergent narratives about what it means for UP to be a national university. It has been said that with the advent of globalization and its powerful influence in ordering reality, universities can no longer focus their attention solely on local or national concerns. As the premier university of a developing country, we are compelled to transform ourselves into a research university—one that critically addresses the problems of widespread poverty, social equity, environmental degradation, poor governance and corruption, inadequate basic education, and the list goes on. More than ever, UP is expected to elevate the level of public discourse and policymaking on key social, political, economic, ecological, and cultural issues. And of course, we are challenged not only to produce professionals that are only competent in their work, but also emboldened by secular values that have guided our university for years—nationalism, leadership, critical thinking, service, and so on.

For me, UP has very clear mandates as the national university. The next century will witness the strengthening of UP's move towards being a graduate university, a research university, a service university, and a regional/global university. UP will continue to be a university dedicated to academic excellence, national development, and its new path of helping in building global teaching and learning communities. As our university performs its tasks of research, instruction, and extension, there will be blurring of the lines among these functions. In many cases, however, these functions of research, instruction, and extension are identified separately; one is not exclusive of the other, more so in our new status as a national university.

As we strive to realize our mandate to be the national university, the UP Open University (UPOU) must examine how we, as an institution of open and distance learning, can contribute to this worthy goal. Although we are bound by the same ideal of academic quality UP has been known for, we are also situated in a different educational and organizational milieu, which affords us a distinctive opportunity to position ourselves in this national university system. Through the years, we have developed some unique competencies and structures that could be tapped not only by our internal constituencies, but also by other constituent universities in the UP System. Harnessing these strengths now lies in our very hands.

Before we tell each other our vision of UPOU's role in the national university system, let me share my narrative of what this transformation of UPOU means to me as an educator, researcher, and administrator in UP's cyber university. I will focus my talk on UPOU being a graduate university, a research university, a service university, and

a regional/global university in the midst of the changing social, cultural, and technological landscape in the digital age.

**Developing a Research Culture**

UPOU is unique in the sense that our faculty members and research staff have been involved not only in disciplinal but also in distance education research. Given our relative small size and our need to develop academics who are both conversant and adept in their disciplines as well as the practice of distance education, our faculty members have been given the opportunity to converse with peers outside their professional or disciplinal community. We can therefore say that the culture of silos around academic territories that have traditionally hampered cross-disciplinal research in most universities is not yet deeply entrenched in our university. We are therefore in a position to develop a research culture and structure that supports greater interdisciplinary collaboration and allows for a diverse range of research paradigms. As we pursue this goal of intensifying and deepening our research, especially in the area of open and distance learning, there will be expansion of the definition of scholarly outputs in our university. However, research with academic rigor will always be at the core of the creation of new knowledge in all the traditional disciplines and emerging areas of study. There will be numerous incentives and rewards for quality academic work .There will be the conscious use of varied standards for evaluation as part of respecting diversity and specificity of the different fields of study.

Due to the nature of their work, UPOU academics and researchers have learned how to use the web not only as a tool for research, but also as setting or object of research and a means for sharing research results with a larger audience. Many social phenomena like social movements and interest groups are now constructed and made material in the web. Hence, there may be a move to revisit the definition of research and there may be the view of research as being a full process where dissemination becomes part of research. There may be blurring of lines between pure and applied research. There will be room for pure research being disseminated to possible endusers and may even be put in very accessible forms which become the automatic application of pure research. Scholars, academics, policymakers, and the general public may have immediate and open access to a wide range of researches and studies. This makes our communities and the world benefit from having access to new knowledge enriched by solid research. The publication in traditional printed journals and books will always be part of our academic environment but the university will probably use print-on-demand services to avoid massive inventories. There will be a leap in e-publishing, e-libraries, and e–bookstores as distribution systems.

We will need a pool of e-librarians, e-curators, and e-learning enablers who will be tagging scholarly voluminous texts, separating these from the gamut of other materials and information on the web. With easier access to broadband, there will be massive production of original multimedia texts (sounds and images as academic texts and written texts are likewise a major part of it), produced by our researchers, academics, multimedia specialists, and instructional designers that will populate the web. As faces are put and matched to the authors of the scholarly works, it will create the emergence of academics as superstars. This will then mean that multimedia and rich media will significantly form part of data gathering and eventual dissemination of research.

In this age, research subjects are no longer considered passive objects of study or mere beneficiaries of research results. They are now considered as co-creators of research knowledge. As we see greater participation from the people for whom we conduct research, we expect to witness the creation of more spaces for them to tell their stories. For UPOU and the general public, we consider the ability to access virtual space as a resource a basic right. Thus, the web will be populated with voices and conversations in hypertext and hypermedia that will thicken the discourse in all fields. As an open university, we have the responsibility to participate in as well as create virtual spaces where the public can articulate their concerns, needs, and other ideas in ongoing conversations that do not privilege the voice of the researcher or the expert. To be able to do this, we may have to re-think the way we disseminate our research as previously mentioned. There will also be a continuous discussion and creation of policies on intellectual property rights and debates on practicing copyright or copyleft. The recent calls for more openness in the conduct of research may also raise the issue of openness in resource sharing and thus spell out new policies and systems of knowledge management.

**Knowledge Creation in a Graduate University**

UPOU's strength has always been in the area of graduate education. As of now, we offer 19 graduate programs in areas spanning education, information and communication studies, and management and development studies. Helping to improve higher education in the country means having strong graduate programs that address the needs of various sectors of learners. There will likewise be strong emphasis in teacher education graduate programs so as to populate our educational institutions with administrators and teachers who are appreciative of appropriate teaching and learning pedagogies for higher education.

As a graduate university, our learners become co-creators of scholarly text. This is a process where scholars are honed as producers of new knowledge and through instruction, mentoring, and guided independent study, making them become the experts and resource persons in their fields of study. The process of teaching and learning at the graduate level produces researchers and studies that contribute to further production of new knowledge by future researchers.

A graduate university  likewise involves itself in the whole range of education—from education for the professions, continuing education, bachelor's programs, graduate certificate and diploma programs, and master's to doctoral programs. This will be seen as an educational continuum that has articulations with bridges and pathways and multiple exits and entrances. The lifelong learning becomes a culture needed for the continuing pursuit for higher learning. The working learners become a major sector needing access to higher education and, if met with seriousness, will create immediate changes in the communities and societies they move in, thus directly contributing to the betterment of lives of the learners who are within the loop of numerous members of a strong community of scholars.

Expanding our graduate programs and enhancing their flexibility will have not much impact unless we have a clear understanding of our target students. We need to understand the psyche of the Filipino learner. The current generations of secondary and undergraduate students in the country are more comfortable with online technologies than their forebears. Social networking technologies are as natural to them as meeting other people in person. Some sectors have attributed this to the "dumbing" down of the population brought about by mass media driven by instant gratification. Others describe this as a shift in learning styles. How do we respond then to such a cultural change?

If we are to be in the forefront of technology-enhanced education, we may have to consider alternative ways of enriching our ways of teaching and learning. There will be an increasing move towards the use of Web 2.0 and 3.0 technologies in facilitating collaborative learning. There will be the opportunity to establish a web-based network where the university can produce educational programs in rich and interactive media formats. Not only can this network provide a resource for UPOU to supplement its text-based instructional materials, it can also provide a valuable resource of carefully designed educational programs for other educational institutions both here and abroad. The network can be the leading producer and distributor of educational programs and learning objects designed within the context and exigencies of a developing country. To be able to sustain it, such network must be supported through institutional and commercial sponsorship. In this way, it can operate on its own and still share these materials under an open source set-up, thus maintaining the "independent spirit" that is so crucial to the academic endeavor.

**Expanding its Reach as a Regional and Global University**

As globalization alters the world economy and the required human resource skills to navigate it, the world shall turn to universities as leaders in providing general direction in higher education, education in professions, and continuing education. With governments emphasizing education as the pathway to sustainable development, there will be a global demand for universities to be service providers and content providers in aiding governments and different institutions of developing countries. The University of the Philippines—known for quality and excellence and committed not only to its citizens but to humanity in general—can play a major role in this area.

UP, as the national university, will necessarily have to widen access to quality education. As

long as there are those who are not reached and have no access to quality education in and outside the country, UPOU is committed to reach the marginalized. Transnational education will always be part of the university mandate as UPOU will be committed to reach Filipinos who are spread all over the world. In so doing, UPOU is likewise in a position to help in education for development in many other countries needing these education services and resources. UPOU, with its mandate of providing lifelong learning to Filipinos here and abroad, will play an important part in this challenge. There will be continuing discussion about our admission policies and adapting our instructional materials to the growing internationalization of our student profile.

There is also a constant need to have strong linkages with leading universities and research and academic institutions as well as access to the libraries of the world to help develop and build global teaching and learning communities. With our borderless campus, UPOU can provide both the human and technological bridges in reaching out to these global learning communities. There will be many partnerships to enter into and exchanges of students, faculty, administrators, and staff that will mutually benefit the cooperating academic institutions. As UPOU creates more partnerships with groups outside the university, there will also be more collaboration between UPOU and other UP constituent universities not only in teaching, but also in research, publication, creative work, and extension.

**In Service to the Nation**

As a national university, service to the nation for national development through widening of access to quality education becomes the key concept for operation. Creating leaders and arming both the leaders and constituents with critical thinking in all fields is the university's paramount concern. Our main function in the university is the creation of knowledge that can better the everyday lives of people in their communities. Programs, projects, training, and organizing for development can have the same level of scholarship that we so value. Such initiatives can make the whole process of theorizing, data gathering, data analysis, application, and theorizing a vehicle for building better future applications. The challenge now for UPOU is to make these knowledge products and services accessible to more people through various formats and platforms. This will allow people to determine what they need and when they need them and can immediately apply their new knowledge to benefit their communities. To widen access to quality education means the unending study and use of new technology as it enriches and changes pedagogies for teaching and learning in all modes of education.

Ultimately, UPOU's main contribution to development is to perform the reason for its being: To provide education opportunities to individuals aspiring for higher education and improved qualifications but who are unable to take advantage of traditional modes of education. We should always reflect on our continuing quest to bring UP quality education to people who for one reason or another cannot access it.

To highlight this point, let me end my speech with an excerpt from the valedictory address of Arnaldo Amoscoso, Jr., a graduate of the Diploma in Mathematics Teaching in 2003. He works and resides in Eastern Samar. And I quote:

> We all know of the story of a *probinsyano* (someone from the province) who ekes out a college degree from a provincial state college and who, after graduation, looks for a job to keep body and soul together and to help the family survive. Soon he gets married but stays in the same job in the same office. If he was born under a lucky star, he might get a scholarship. Or he enrolls at the nearest college or university, but without expecting academic excellence to come with the academic units earned. I was spared this destiny of academic mediocrity. UPOU provided the mechanism for me to earn the most excellent advanced education in the countryside while sparing me from being uprooted from my day-to-day world… I express my profound thanks to the people behind UPOU for shattering the intellectual isolation of would-be scholars in far-flung places in the Philippines… With UPOU, we *probinsyanos* can enter the superhighway of world-class education and at the same time apply what we are learning in our homes and provinces. By making excellent learning accessible in the countryside, UPOU has planted seeds of growth where they will bear the most fruit for our country.

His story is just one of the many stories we will be hearing from and about UPOU. Some are

convergent and some may be conflicted. As in any continuing conversation, any story would raise a number of questions. This afternoon, some of these questions may be answered while others will remain unanswered. This is our continuing challenge.

Thank you.


## UP Open University in Its Journey as a Graduate University, Research University, Regional/Global University and Public Service University in an Open and Distance Learning Environment

14 October 2009

Allow me to share my thoughts and reflections on the University of the Philippines (UP) as it enters its next century and its corresponding implications on UP Open University (UPOU) as UP's cyber campus.

UP is presented with the challenge of being a national university, which has been put in black and white in the new UP Charter passed by Congress. The UP Charter describes UP as a graduate university, a research university, a regional/global university, and a public service university.

UPOU will continue to be a university dedicated to academic excellence, national development, and its new path of helping in building global teaching and learning communities. UPOU will do its share in securing UP's new status as the National University.

UPOU is...

- A community of scholars serving the nation and the world
- For people and about people having wider access to quality education
- Committed to contribute in uplifting the quality of tertiary education to create a culture of excellence, making sure that what is exercised is academic freedom and critical thinking, and to help in freely exploring and managing knowledge
- Committed to responding to the needs of the Filipino workforce in the country and abroad
- Committed to research in open and distance education and the disciplines
- Committed to providing quality transnational education and building global learning communities

This declaration of the vision and mission of the UP Open University cannot be claimed by one person. Inspiration for this comes from the many brilliant ideas of colleagues in UPOU that have been expressed in our Chancellor Advisory Committee, colloquia, seminars, workshops, and conferences. This is an attempt to put into words the many concepts that we at UPOU so strongly value.

**UPOU as a Research University**

Research with academic rigor will always be the core of the creation of new knowledge in all the traditional disciplines and emerging areas of study. However, there will be expansion of the definition of scholarly outputs in our university. There will be numerous incentives and rewards

for quality academic work. There will be conscious use of varied standards for evaluation as part of respecting diversity and specificity of the different fields of study.

The Centennial Center for Digital Learning will likewise be the venue for developing training programs for faculty and staff toward capacity building in course development, course delivery, and student support to strengthen quality assurance in all levels of open and distance learning in the digital environment.

The Centennial Center for Digital Learning will be fully operational with the following research and training agenda:

1. Discipline-focused—basic, applied, and policy research in the disciplines conducted by the Faculty of Education, Faculty of Information and Communication Studies, and Faculty of Management and Development Studies

    - Information and Communications Technology for Development (ICT4D)
    - Multiple literacies
    - Knowledge management in the digital environment
    - Environment and natural resources management in developing societies
    - Redefining a science culture in the digital era
    - New literacies
    - Virtual interactions
    - Convergence of ICT, ecological systems, art and community
    - Mapping mental health and wellness in the global arena

2. Research on open and distance learning and the disciplines

    - Pedagogies in distance education (impact of distance education on teaching and learning)
    - "Moodling" behavior
    - Learning strategies of adult learners (andragogies)
    - Social networking as open and distance learning delivery system
    - SMS texting for connectivity, interactivity, and ubiquity
    - Multiple intelligences
    - Open learning philosophy in the disciplines
    - Web 2.0 applications in the disciplines
    - Open learning for national development

3. Distance education-focused research consisting of research on

    a. Technologies in distance education (e.g., development of learning management system)
        - Operations research profiling and interrogating attrition
        - Learning styles for distance education
        - Designs for flexible learning
        - Learning management systems development for rich media content

With easier access to broadband, there will be massive production of original multimedia texts (sounds and images as academic texts and written texts are likewise a major part of it), produced by our researchers, academics, multimedia specialists, and instructional designers that will populate the web. This will mean that multimedia and rich media will be a significant part of data gathering in research and eventual dissemination of research.

To be instituted are UPOU Networks, an online network/station producing, programming and delivering scholarly productions through the web by setting up the use of a platform ( content management system) programmed with various applications. UPOU Networks will produce scholarly texts grounded on research in various formats from hypertext to rich media used as resource materials for regular courses, special courses, and programs for the general public. The materials will vary from open educational courseware (freeware) to exclusive and specific client use. The materials stored in the UPOU Networks will be accessible on demand to various client groups and to the general public, subject to curatorial and programming approval of the Creative Academic Board of Advisers.

The UPOU Networks will comprise the following units:

1. Office of the UPOU Networks Station Manager, who is overall in charge of implementing access to all materials programmed materials.
2. Creative and Academic Board of Advisers (CABA), which is composed of the vice-chancellors, deans, and heads of the different units of the UPOU Networks.

3. Programming, which is powered by a Program Committee that curates and classifies different genres of production composed of e-librarians, e-curators, and e-learning enablers who will be tagging scholarly voluminous texts, separating these from a gamut of other materials and information on the web (free courseware) and UPOU-produced materials. The CABA shall approve programming.
4. Traffic, which takes charge of the programs and materials that will be made visible and accessible in the UPOU Networks. It is composed of programmers, systems analysts, and computer technicians.
5. Production, which produces online text from hypertext, and hypermedia to hyper-multimedia as executed by production teams composed of course developers, instructional designers, and multimedia specialists who are faculty/affiliates; research, extension and professional staff (REPS); and staff who have been fully trained in production.
6. Merchandizing, which includes internal announcements of available programs and materials for the different clientele.
7. Marketing, which is resource generation from institutional advertising for sustainability of operations and maintenance of facilities

The web will be populated with voices and conversations in hypertext and hypermedia that will thicken the discourse in all fields. There will therefore be a continuous discussion and creation of policies on intellectual property rights and debates on practicing copyright or copyleft. There may, however, be openness in resource sharing that will spell out new policies and systems of knowledge management.

More importantly, the plan is to establish a bi-annual Philippine Open and Distance Learning Journal with a strong editorial board. Issue editors will be regularly rotated among the Faculties. The themes for the next five years will be identified for the Faculties to work on their particular issues.

**UPOU as a Graduate University**

Helping improve higher education in the country means having strong graduate programs that address the needs of various sectors of learners. There will be strong emphasis in teacher education graduate programs so as to populate our educational institutions with administrators and teachers who are appreciative of appropriate teaching and learning pedagogies for higher education.

As a graduate university, our learners become co-creators of scholarly text. This is a process where scholars are honed as producers of new knowledge and—through instructions, mentoring, and guided independent study—are made to become the experts and resource persons in their fields of study. The process of teaching and learning in the graduate level produces researchers and studies that contribute to further production of new knowledge by future researchers.

A graduate university concerned with higher education likewise involves itself in the whole process of education—from education for the professions, continuing education, bachelors programs, graduate certificate and diploma programs, to master's and doctoral programs. This will be seen as an educational continuum described as having articulations with bridges and pathways having multiple exits and entrances. The lifelong learning becomes a culture needed for the continuing pursuit for higher learning. The working learners become a major sector needing access to higher education. If this need is met with seriousness, it will create immediate changes in the communities and societies they move in, thus directly contributing to the betterment of lives of the learners who are within the loop of numerous members of a strong community of scholars.

There will be strengthening of the programs through a systematic program review of existing programs to determine and articulate pathways and bridges in our educational continuum. Courses will be institutionalized to serve as pathways for exit degrees and for designing of new programs for the emerging fields. The courses will emphasize research and the importance of thesis writing as outputs for all programs. Publications will likewise be strongly supported and rewarded. There will be a review of the undergraduate programs and the strengthening of its student support and delivery system. The undergraduate programs are sources of the pool of future graduate students who have been acculturated in open and distance learning and the ICT environment. In view of this, a new bachelor's program steeped in liberal arts will be developed to enlarge the community of scholars who will continue on to higher learning and who will be adept at academic discourse that takes

place online. A general education (GE) council will be created to closely study both the Associate in Arts and the Bachelor of Arts in Multimedia programs with the end view of strengthening the graduate programs in all fields. The Doctor of Communication will be a new program offering. As such, it will need full attention in course development, course delivery, and faculty and student support in its initial offering. There will be a committee created specifically to monitor and evaluate the offering of the Doctor of Communication program.

To facilitate and enhance teaching and learning in our community of scholars, we are building the UPOU Learners Hall adjacent to the Centennial Center for Digital Learning to house the library, digital laboratory, and convenient living quarters for transient face-to-face learners.

**UPOU as a Regional and Global University**

The world shall turn to universities as leaders in providing general direction in higher education, education in professions, and continuing education. With governments emphasizing education as the pathway to sustainable development, there will be a global demand for universities to be service and content providers. Universities like UP, known for quality and excellence and committed not only to its citizens but also to humanity in general, can aid governments and different institutions of developing countries become recipients of these education services.

UPOU will necessarily have to widen access to quality education. As long as there are those who are not reached and have no access to quality education in and outside the country, the university is committed to reach the marginalized. Transnational education will always be part of the university mandate as the university will be committed to reach Filipinos who are spread all over the world, particularly in 63 countries. In so doing, UPOU is likewise in a position to help in education for development in many other countries needing these education services and resources.

There is also a constant need to have strong linkage with leading universities and research and academic institutions as well as access to the libraries of the world to help develop and build global teaching and learning communities. There will be many partnerships to enter into and exchanges of students, faculty, administrators and staff that will mutually benefit the cooperating academic institutions. Our partner institutions may serve as our learning and testing centers and eventually, UPOU may engage their best faculty for their academic expertise as tutors, proctors or learning center coordinators. All these will be conducted to assure a "world-class" teaching and learning environment.

**UPOU as a Public Service University**

UPOU as a public service university means that it acts as a change agent and likewise produces change agents for national development. Creating leaders and arming both the leaders and constituents with critical thinking in all fields is the university's paramount concern. Our main function in the university is creation of knowledge that can better the everyday lives of people in our communities. Programs, projects, training, and organizing for development can have the same scholarship that we are looking for. It may also have the whole process of theorizing, data gathering data analyses, application, and theorizing to help build better future applications. Making accessible formal and non-formal courses is necessary to reach the end users for immediate application of new knowledge in their fields.

There will be strengthening of existing partnerships. We have partnered with 36 national institutions and 19 international agencies, and we are still expanding our reach through programs and projects. Examples are the Bangladesh Government monitoring and evaluation for bureaucrats; World Health Organization medical special services, disaster management, forensic medicine, the establishment of the Observatory for Research for comparative mental health; and the IT Training Center for IT programs in partnership with industry. There are many more of these projects and programs that target specific publics.

The generation of such knowledge can be replicated and reach more and be accessed by many. To widen access to quality education means the unending study and use of new technology as it enriches and changes pedagogies for teaching and learning in all modes of education. The challenge now for UPOU is to make these knowledge products and services accessible

to more people through various formats and platforms. This will allow people to determine what they need and when they need them and they can immediately apply their new knowledge to benefit their communities.

All these will only be possible through the support of the hardworking and committed faculty and staff of UPOU. Since the field of open and distance learning in the Philippines is an emerging area, it is of great import that we continue a strong faculty and staff development program to retool and strengthen capacity building of its constituents to maintain the open and distance learning leadership of UPOU. It is likewise necessary to establish various key offices to create mechanisms to support UPOU knowledge enablers to function at their best in our open and distance learning arena.

UPOU will pursue with seriousness its main reason for being established, which is to provide education opportunities to individuals aspiring for higher education and improved qualifications but who are unable to take advantage of traditional modes of education. UPOU holds with utmost importance its continuing quest to bring UP quality education to people who, for one reason or another, cannot access it. We are meant to be change agents to empower our fellow Filipinos to help them better their everyday lives.

Thank you.



## The UPOU as a Public Service University

1 December 2009

The University of the Philippines (UP) is presented with the challenge of being a national university—now in black and white, in legal documents in the form of the new UP Charter passed by Congress. It is what Prof. Randy David calls the burden of being a national university. This means that we are to move towards being a graduate university, a research university, a regional/global university, and a public service university. We can say as faculty members and staff of UPOU that, in many ways, this is what we do. But President Roman is now posing the challenge to articulate what we mean by "The University of the Philippines (UP) as a Public Service University".

If we define public service as water supply, power supply, electricity, garbage management, and health services, access to information, need for connectivity, access to quality education, and education as a basic human right, then we have a long way to go if we think that doing our work is to reach every Filipino. However, it seems that we have chosen the path of focusing on potential leaders and not to replicate what the numerous other higher institutions of education are doing but eventually, the other institutions deliver quality education to Filipinos. We have focused on learners who, as they are studying and become part of our community of scholars, become change agents within their communities and all the other communities that they interact with.

UPOU's role as a public service university is as a catalyst for change in an increasingly digitized world. And we arm our teachers, learners, and partners to be knowledge enablers—able to maneuver in an ever changing complex virtual environment. The learners are expected to be agents of change in their communities.

Continuous learning for all, serving the marginalized who otherwise cannot have access to quality education like our men and women who stay at home taking care of their children, those who are physically challenged, the working population, and Filipinos working abroad.

Our publics and partners are national institutions, government offices, non- governmental organizations, international institutions, private institutions.

Learners, teachers, and partners are our community of scholars mobilizing to continuously strengthen, replicate, magnify, multiply, and expand communities through knowledge and resource sharing.

Our move towards building global teaching and learning communities have involved us in national education and transnational education as well making us able to reach our *kababayans* (fellowmen) abroad. We have structured ourselves in operating 27 testing and learning centers all over the country, working with our embassies abroad to serve as testing centers, and maximizing the use of the web to reach our students who are in more than 60 countries. UPOU is fully online

in delivering its courses but some can opt for the blended distance education mode in some of its programs.

As globalization alters the world economy and the required human resource skills to navigate it, the world shall turn to universities as leaders in providing general direction in higher education, education in the professions, and continuing education. With governments emphasizing education as the pathway to sustainable development, there will be a global demand for universities like UP which is known for quality, excellence and commitment not only to its citizens but to humanity in general, to be service and content providers in aiding governments and different institutions of developing countries.

UPOU as a Public Service University necessarily has to avail opportunities for widening access to quality education. As long as there are those who are not reached and have no access to quality education in the country and outside our country, UPOU is committed to reach the marginalized. Transnational education will always be part of the university mandate as UPOU is committed to reach Filipinos who are spread all over the world. In so doing, the university is likewise in a position to help in education for development in many other countries needing these education services and resources. UPOU, with its mandate of providing lifelong learning to Filipinos here and abroad, will play an important part in facing this challenge. There will be continuing discussion about our admission policies and adapting our instructional materials to the growing internationalization of our student profile.

There is also a constant need to have strong linkage with leading universities and research and academic institutions, and access to the libraries of the world to help develop and build global teaching and learning communities. With our borderless campus, UPOU can provide both the human and technological bridges in reaching out to these global learning communities. We have many publics and partners to address, and many more partnerships to enter into as well as exchanges of students, faculty, administrators and staff that will mutually benefit the cooperating academic institutions. As UPOU creates more partnerships with groups outside the university, there will also be more collaboration between UPOU and other UP constituent universities not only in teaching, but also in research, publication, creative work, and extension.

UP Open University's service to the nation for national development through:

*Widening access to quality education*

The emphasis on development is reflected in all of our programs lodged in all our faculties. Our Faculty of Education has focused its programs to help in uplifting quality in the field of higher education. Our Faculty in Information and Communication Studies gives emphasis on technology and communication for development. Our Faculty of Management and Development Studies focuses on public health, public management, and management of environment and natural resources.

*Programs are designed to help people have better lives*

Creating leaders and arming both the leaders and constituents with critical thinking in all fields is the university's paramount concern. Our main function in the university is the creation of knowledge that can better the everyday lives of people in our communities. Programs, projects, training, and organizing for development can have the same level of scholarship that we so value. Such initiatives can make the whole process of theorizing, data gathering or data construction, data analyses, application, and theorizing a vehicle for building better future applications. The challenge now for UPOU is to make these knowledge products and services accessible to more people through various formats and platforms. This will allow people to determine what they need and when they need them, and immediately apply these new knowledge to benefit their communities.

To widen access to quality education means the unending study and use of new technology as it enriches and changes pedagogies for teaching and learning in all modes of education. Ultimately, UPOU's main contribution to development is to perform the reason for its being: To provide education opportunities to individuals aspiring for higher education and improved qualifications but who are unable to take advantage of traditional

modes of education. We should always reflect on our continuing quest to bring UP quality education to people who, for one reason or another, cannot access it. To highlight this point, let me end my speech with an excerpt from the valedictory address of Arnaldo Amoscoso, Jr., a graduate of the Diploma in Mathematics Teaching in 2003. He works and resides in Eastern Samar. And I quote:

> We all know of the story of a *probinsyano* (someone from the province) who ekes out a college degree from a provincial state college and who, after graduation, looks for a job to keep body and soul together and to help the family survive. Soon he gets married but stays in the same job in the same office. If he was born under a lucky star, he might get a scholarship. Or he enrolls at the nearest college or university, but without expecting academic excellence to come with the academic units earned. I was spared this destiny of academic mediocrity. UPOU provided the mechanism for me to earn the most excellent advanced education in the countryside while sparing me from being uprooted from my day-to-day world… I express my profound thanks to the people behind UPOU for shattering the intellectual isolation of would-be scholars in far-flung places in the Philippines… With UPOU, we *probinsyanos* can enter the superhighway of world-class education and, at the same time, apply what we are learning in our homes and provinces. By making excellent learning accessible in the countryside, UPOU has planted seeds of growth where they will bear the most fruit for our country.

His story is just one of the many stories we will be hearing from and about UPOU. Some are convergent and some may be conflicted. As in any continuing conversation, any story would raise a number of questions. This afternoon, some of these questions may be answered while others will remain unanswered. This is our continuing challenge.

Thank you.


## Harnessing Open and Distance e-Learning in the Digital Age: Lessons from the UP Open University Experience

23 November 2010

I am pleased to be part of the 1st Schools Forum. The conference theme "Harnessing the Power of Communications and Technology" is very timely given the exciting things happening right now in the field of open and distance e-learning. Fifteen years ago, many of us were amazed by the speed of the electronic mail. And then mobile phones became more affordable and a greater number of Filipinos took to texting like fish to water. A few years ago, social media like Friendster and Facebook burst into cyberworld, altering the way many Filipinos connect with each other. And who would have thought that Facebook would be a potent means to to organize relief operations in the Ondoy typhoon aftermath? Today, the growing popularity of mobile Internet access has opened up a new space not just for entertainment, but also for learning.

The UP Open University (UPOU) recognizes the important role played by information and communication technology (ICTs) in education. Our experience showed that ICTs have not only bridged the gap between the teacher and students, but also enriched the learning experiences of both participants. Today, I will discuss the evolution of open and distance e-learning at UPOU and the lessons other educational institutions can glean from the UPOU experience. I will also briefly talk about an opportunity for educators who wish to get into distance education, and online teaching and learning in particular. Before I do this, let me give you a brief background of UPOU and the idea of open universities. Hopefully, this will provide the context within which I will discuss the rest of my paper.

**UPOU and "Open" Universities**

UPOU was established on 23 February 1995 as the fifth constituent university of the University of the Philippines (UP) System. It aims to provide education opportunities to individuals aspiring for higher education and improved qualifications but who are unable to take advantage of traditional modes of education. We work to develop in students the discipline and capability to become lifelong learners who are at home in today's knowledge society. With the advances in ICTs, UPOU has broadened its reach to include students beyond the country's shores.

An open university espouses a philosophy of open learning which differs in degree and dimension from institution to institution. In "The Claim of Openness of Open Universities" authored by Dr. Shyamal Majumdar, he declares that there is no universal definition of open learning. He says that open learning is not a specific mode of delivering education, but a philosophy about how education can be delivered in an open way. It is primarily a goal or an educational policy. The provision of learning in a flexible manner, built around the geographical, social and time constraints of individual learners, rather than those of an educational institution.

Open Learning Philosophy focuses on three ideals:

**Access**: the reduction or elimination of anything that stands between the prospective students and the learning environment.

**Learner-centered**: the provision of learning opportunities to the individual learners by giving them control over the pace and style of their learning.

**Equity**: the removal of traditional restrictions such as qualification, lifestyle, age, and ability to pay.

For the UPOU, its philosophy of open learning is evolving. Its emphasis at present is on widening access to quality higher education programs.

**UPOU in the Digital Age**

When UPOU was established 15 years ago, it taught primarily though stand-alone printed modules. With the growth of the Internet at the turn of this century, UPOU shifted its gears and adopted online teaching and learning. At that time, there were concerns about the readiness of students to do their studies online. We weighed the pros and cons of going online. To guide us in our decision-making, we examined the technological and learning environments. As we entered the digital era, we noticed how academic texts in print are partially migrating into other forms of media. Harnessing the advantages of these technologies, UPOU has looked at open and distance e-learning not as a passing fancy but as a means to enrich the learning experience of students. In 2001, we created MyPortal where we hold our virtual classes.

A few years later, we saw the rise of Web 2.0, which has transformed Internet users from mere consumers to producers of knowledge. In this digital age, knowledge is not merely transmitted; it is constructed through the interaction of people across classes, disciplines, borders, and cultures. Instead of relying on the monologue offered by a teacher or a printed module or textbook, we have taken advantage of the wide array of resources available on the Internet. In the past, people propagate ideas either via the print format or broadcast media. With Web 2.0, we can now use YouTube to demonstrate a concept or skill. Students and teachers alike can share and talk about each other's work through online discussion forums, blogs, and Myspace. Some are now using Facebook to enable students to do collaborative projects. A faculty member has used mass texting system to send short quizzes to his students and lessen what we call the transactional distance between the teacher and his learners. Compared to previous technologies, which render the audiences of the learners as mere consumers of information, today's technologies have given our learners the chance to share what they know, critique each other's position, and discuss problems from different angles. In this way, knowledge creation becomes more relevant, nuanced, and context-specific. With the advances in ICTs, our offshore students now come from 43 different countries.

Since the establishment of UPOU, distance education in the country has gained a stronger foothold. In recognition of UPOU's contribution to educational innovation, the Commission on Higher Education (CHED) of the Philippines has declared UPOU as the National Center of Excellence for Open and Distance Learning. UPOU is the sole university in the country that offers courses 100 percent online. In addition, the Information Technology and e-Commerce Council (ITECC) has assigned UPOU as the National e-Learning Competency Center.

UPOU has also tapped cyberspace to extend its reach outside the country. Since we went online, the number of offshore students has increased to around 17 percent of the total student enrollment. In addition, we have also intensified our partnerships with other open universities in Asia, particularly in the ASEAN region. We have recently signed a Memorandum of Agreement with open universities in Thailand, Malaysia, Indonesia, and Vietnam to offer a joint master's degree program in ASEAN studies.

**Lessons Learned**

Online learning offers several advantages particularly to learners. Let me discuss each one of them.

- **Ubiquity**. ICTs provide the opportunity for people to access learning in locations they choose and at a time that suits their needs. As such, it can be particularly useful to learners who are always on the go. It can also extend

students' learning experience beyond the classroom and in the process enrich their learning outcomes.

- **Reach**. Thanks to ICTs, students in far-off places can still study. Through online learning, people can be trained and connected with each other without having to constantly leave their bases. Given the widespread reach of mobile phones in the country, we can also explore the use of mobile learning (or m-Learning) as an approach to equip such people.

- **Connectivity**. With its connectivity, online learning can provide an accessible space in which teachers and learners can share experiences, information, and other resources. ICTs allow participants from diverse backgrounds to interact with each other and thicken the scholarly discourse.

- **Flexibility**. ICTs have contributed to the evolution in the way students learn. Online learning encourages students to seek out information, share it with others, collaborate with them, and apply or create new knowledge in the process.

  With ICTs, teachers and learners can now communicate both synchronously and asynchronously. As such, it can bridge the distance between people from different locations and time zones. This is particularly useful if the participants are busy students from different countries. Moreover, asynchronous communication encourages learners to be more reflective of their learning experience. Unlike the print medium which is costly to produce and revise, online materials can be updated right away. E-learning also allows the use of various formats of references (from textual to video).

- **Interactivity**. Digital media enables us to develop and present interactive learning activities in dynamic formats. Complex concepts like those in science can now be taught through animation. Students can practice certain skills through role-playing games and Webquests. Students can use Internet resources and even their mobile phone camera to produce assignments that can be uploaded in the Internet and made accessible to both the teacher and classmates. Such assignments become reusable learning objects that can be used by the larger community of learners.

- **Direct application**. Since people do not have to leave their jobs while undertaking online courses, they can directly apply what they have learned to their own professional situations. This is especially applicable in professions where the problems encountered are constantly changing. When people are given the chance to study in their preferred location and time, they are in a better position to engage in authentic learning.

- **Affordability**. Although e-learning may involve significant investments to develop online courses and maintain a learning management system and student support services, it can be more affordable to the learners in the long run. It enables students to save on living and travel expenses, which they would incur had they studied in the residential mode.

  While open and distance e-learning offers several affordances, it is also faced with some challenges, including the following:

- **Teacher preparedness**. First, they need to be trained not only in the use of information and communications technology, but also in instructional design. Teachers need to be aware of online learning activities, technologies, and assessment appropriate to the course objectives and target learners. Some teachers also need to be trained in online tutoring to enhance their online facilitation skills.

  UPOU takes online teacher education seriously. We conduct seminars and workshops for educators who wish to get into online teaching and learning or incorporate e-learning into their classes. For those who wish to get a more exhaustive training and formal qualification, we currently offer the Master of Distance Education (MDE). Composed of 34 units, the program aims to expose students to theories and models in open and distance learning and equip them in developing delivering and managing distance education programs.

  Those who are looking for a formal introduction to the field of distance education and graduate-level training in managing distance education and e-learning programs

can take the Graduate Certificate in Distance Education (GCDE). The GCDE is a more focused and compact program that can be completed after taking 18 units in the MDE program.

If you just want to learn the basic theories and approaches in online teaching and earning, you can also enroll in EDDE 210 (Online Teaching and Learning) as a non-degree student. You may visit the UPOU website for more information.

- **Student preparedness**. Compared to our generation, today's students are quite comfortable with ICTs. However, we may need to prepare them for active and self-directed learning activities. The teacher must therefore put in the required scaffolding. This is where the preparation of the teachers come in.

- **IT infrastructure**. There are a lot of open resources and freely available applications that can be used for open and distance e-learning. Those who want to get into learning management systems and video communication may have to invest in a proper IT infrastructure.

- **Student support**. For institutions that would like to offer online courses, you may require a strong student and IT support service. Even if you offer web-enhanced courses instead of fully online classes, teachers must also be ready to assist their students to enable them to adjust to this mode of learning.

**Conclusion**

Why do we need to push for the culture of information technology ICT, e-learning, and open and distance e-learning?

We need to do this because we have to take advantage of the potential to creatively harness the ICT environment at its ripe and right moment. We will be able to determine its direction as a core medium and technology for teaching and learning.

These are exciting times for open and distance e-learning. Access to our technology can happen anywhere and almost everywhere. Interactive and ubiquitous—that is the environment we are in now. It is here today and will proliferate even more in the future.

Open and distance e-learning emphasizes the holistic approach—from using the communication tools, the concern for interactivity and tutoring, instructional design to the final putting together through production and rendering. All these elevate e-learning to open and distance e-learning.

National and transnational communities are built through shared meanings and these shared concerns are what propel the sustainability of teaching and learning communities. Knowing open and distance e-learning enables us to use it to build our community and allows us to be contributors and initiators of growth and development at work and in our everyday lives. There is a strong call for sharing knowledge to our communities.

It is important to experiment with and explore the process of co-creating texts for learning. Building on what we have learned is the point—to be able to design, construct, and produce our information, our stories, our experiences, our interpretations, our course materials, and claim our voices and spaces in the vast limitless web. Let us not make the same mistake of not being felt and seen as we were in the traditional education technologies of print and broadcast in a global context. Do we see a large presence of ourselves and our country in these traditional educational media in the global scenario? No! We and our country are silenced and faceless in these traditional media. Not being present or not being heard or not being seen in today's global ICT right there on the web is unacceptable. We must create our own materials the way we want to create them and proliferate the web for the world to see. This is authentic competitiveness. Open and distance e-learning adopted by educational and government institutions, non-governmental organizations, private agencies, and companies for their own growth and improvement together with exchanges of resources with their circles of linkages create a tremendous echo effect.

In this way, we focus our moves towards a constructivist view, creating well- researched studies, authentic and honest information and documentation, creative cultural recordings, and making social networking go beyond generic entertainment to being a repository of teaching and learning texts. More importantly, all these digitally created texts carried by the limitless web accessed on demand shall be

grounded on Philippine experiences and realities showing the Filipino solutions and discourses on major concerns regarding our culture, health, environment, biodiversity, livelihood, labor, governance and the like. All these should be shared and can be shared as open educational resources. It is important to highlight the need for concerted efforts to engage, excite, and move our nation to value continuing and lifelong learning—to strengthen our professional sectors and the Filipino workforce, and awaken their entrepreneurial and independent spirit—together with formal basic and higher education. This is the core of the open learning philosophy that is the driving spirit of distance education. And open and distance e-learning in this digital age can bring us to the apex of global competitiveness, for which we are all preparing our students.

The challenge now lies in harnessing the affordances provided by digital technologies to serve our learners and other publics. To achieve this, teachers and learners will have to be eloquent in this new technology, just like the way we have become conversant in the technology of writing and communicating through sounds and visuals. Teachers and learners will have to go beyond traditional technologies' linear nature and understand and appreciate how to think non-linear as well. We are dealing with technology that has no beginning and no end. It has that unending cycle of conversations and dialogues. It has that openness for the thickening of discourse that is recorded through this flickering medium.
All of us here are champions of quality education. Let us consider how we can harness ICT to prepare our students in this increasingly digital world.

## Open Educational Resources (OER) in Asia in a Digitized World

19 September 2012

Last year, the University of the Philippines Open University (UPOU) embarked on the production of a community television program that aims to highlight science and technology issues and showcase the research and technologies produced by research and development (R&D) institutions based in the university town of Los Baños. UPOU offers mostly graduate programs through open and distance e-learning (ODeL).

The one-hour magazine show is called "Maki-Makiling," named after the beautiful mountain that stands above the university town. Its segments include a discussion of science and technology issues by local experts and citizens, feature stories on technologies developed by the agencies, trivia, and other information about the town's history, culture, and tourism. It is part educational and part entertainment. To make it more accessible to more people, the show was produced in Filipino.

The local show ran for one season. It was produced through the efforts of volunteers from UPOU and the R&D agencies. I acted as the show's director with technical crew coming from UPOU's Multimedia Center. The local cable operator offered to air the show thrice a week for free. It was broadcasted in several towns in the province of Laguna. UPOU is also planning to upload the show in its web-based station called UPOU Networks to make it more accessible to a wider community. While the show primarily addresses a local audience, the issues it covers (e.g., forest conservation, health, water quality, and science culture) are universal.

This initiative was initially met with doubts by some representatives from the R&D institutions. They were unsure whether there is an audience for a show on local science and technology issues. After the airing of the show's initial episode, we were gladly surprised by the positive feedback from the local citizens.

I shared this experience because it gave me some insights on our topic today—OER in Asia and the digitized world.

The benefits of OER to education has long been heralded—widening access to education, promotion of lifelong learning, increased collaboration between academics, increased reputation for the participating institutions, and so on.

While we continue to reap the benefits of OER, there are some issues that I believe we must consider of we are to make OER more relevant to learners, especially in this part of the world.

The proliferation of educational resources—both proprietary and open—has been a cause for celebration as well as concern. While it has made learning more accessible to more people, its openness to all types of assertions can be problematic as well. Individual learners who do not belong to the formal education system may find the wide array of resources confusing, especially if

they are confronted with opposing perspectives. As Prof. Som Naidu said, students need help with locating OER, evaluating their quality, and applying these resources for effective learning. More than ever, our teachers need to be involved not only in the development but also delivery of these digital resources. In the era of open knowledge, however, traditional quality assurance systems are at best difficult to impose and go contrary to the participative nature of OER wherein teachers and learners are engaged in the co-creation of knowledge.

OER has an inherent mission to make learning available to as many people as possible. If we really want to make OER truly useable, academics need to be open to the popularization of complex scientific ideas. As it is, there is general disdain for popularization among academics. As Stephen Hilgartner noted, popularization is sometimes seen as an "appropriate simplification or at worst, the distortion of science by outsiders." Having said this, popularization, if not properly handled, can also lead to oversimplification, if not misrepresentation.

The digital nature of OER has made it readily accessible, reusable, and interactive. However, it has also raised the difficulty of pinning down authorship in a multimedia environment. When French artist Marcel Duchamp put a urinal in a museum to make a point about the nature of art, the artistic community began questioning the nature of authorship. Who is the author in this case—is it maker of the urinal or the artist who put it in the museum and called it art? The same dilemma now faces multimedia resources. When people do mash-ups of digital resources, to whom does the authorship rightfully belong?

Lastly, OER gave much latitude to our teachers and learners in both content, type, and medium. However, more work needs to be done to increase resources suited to the Asian context. As Ilkka Tuomi argued, the Western Platonic or "object" view of resources may not fit with the primacy of the "flow" in Asian philosophy. Moreover, Asian academics also need to populate the web with their own narratives and discourses and in their own languages. If indeed language constructs reality, our reality may change depending on the language we use to make sense of our world. A more active contribution from Asian academics in OER may perhaps help in addressing exoticism and stereotyping of Asian people and societies.

By virtue of their name alone, universities cannot afford not to be involved in OER. In this case, the growth of OER will likely be shaped by the context in which universities and other educational institutions are situated. The confluence of these contextual factors shall define what kind of OER will prevail and how it will affect our educational system in particular and societies as a whole. In the midst of these issues and concerns, what roles can universities play? How do academics hold on to their mission in the midst of these changes?

Despite claims by some critics about the impending death of the University as we know it, I believe that the long-term success and relevance of OER is tied up with the future of universities that support it. For OER to flourish and to be truly enriching, we need to look at OER within the context of the "universitas"—the larger community of scholars, the state that has given us the mandate to operate, and the citizenry from which we draw support. By going back to the concept of the universitas, we can better appreciate what education is—a social contract.

At the core of the universities' social contract is its role in social transformation. Universities have helped shape society not only by producing competent professionals, but also by nurturing innovative ideas, facilitating discourse on important social issues, and developing technologies that people can use. Universities have pursued knowledge beyond the utilitarian needs of our professions and industries. They have also helped spur paradigm shifts, social movements, and social transformation. Universities are able to do this because they encourage the free exchange of ideas, thereby allowing its community of scholars to think critically, creatively, and collegially.

OER can be tapped to develop learners who can think critically, analyze a situation from different angles, tolerate other ideas, and propose creative solutions. From my observation though, effective course design and delivery are not enough to realize all this potential. For such learning to be authentic and therefore achievable, learners and teachers alike need to know and feel that they are a part of a community of learners. While technical knowledge is a must, our citizens need to know that they have ready access to a more holistic learning experience that goes beyond the how

to's of things. I believe that e-learners and teachers alike need to imbibe values that have made the universitas the cradle of social transformation—academic freedom, humanism, intellectual pluralism, cultural diversity, academic excellence, democracy, and service to society.

On the other hand, OER is underpinned by values like freedom, inclusivity, access, resource sharing, learner-centeredness, flexibility, and reflection.

These values are inherent among educators. In addition, they are compatible if not supportive of the values that define the universitas—excellence, academic freedom, humanism, intellectual pluralism, democracy, and service to society. This ethos create the spirit of the university that we all recognize. Together, all these elements—embedded and facilitated by networked information and communication technologies (ICTs)—can help bring about social transformation.

Let me just say that I am not the first one to espouse these values. Many educational institutions have actually practiced these values in one form or another. What I am presenting here is not a normative framework but more of an expression of values, a worldview, a construction of how open knowledge can be enacted in the context of the universitas. It is a worldview shaped by my experiences as an academic, a university administrator, a citizen, and a lifelong learner.

This worldview has implications for OER and the way we handle some academic and administrative matters in the university.

First is the issue of plurality of ideas. The post 9/11 scenario has shown us that the world needs more people who have greater understanding of the complexities of the world around them, a high level of tolerance for differences, and a more open mind to transformation. These are the same values that define the universitas. For us working in OER, this requires designing resources that not only encourage participation, but also present a range of ideas and perspectives.

The OER movement has done a great deal in democratizing learning materials. However, the developing world has been more of a consumer rather than producer of content. To create a truly global perspective, we in Asia and the Third World must find means to design, construct, and produce our information, our stories, our experiences, our interpretations, our course materials, and claim our voices and spaces in the vast limitless web. There is a need to create our own materials the way we want to create them and proliferate the web for the world to see. Only then can we talk about authentic contribution.

Second is the production of scholarly texts in a networked world. OER has been accused of contributing to confusion. If we really want OER to be truly reliable, academics need to be active in producing and propagating OER that can be accessed by people across the globe. We in the academia should maximize the potentials of multimedia as research in terms of both conduct and dissemination. While printed academic journals—which can be digital too—shall remain the primary mode for disseminating empirical work among academic scholars, multimedia offers a great opportunity to disseminate scientific knowledge to an audience that is becoming more accustomed to the grammars of the audio-visual language.

Corollary to this is the need for collaboration in the production of OER. In a network society, academics must partner not only with other academics but also with communities of learners in the production of OER. There should be more East-West, East-East, South-South, and North-South collaboration to ensure that OER are not only relevant but, more importantly, present a balanced view of the world. In this way, we can minimize the problems of racism, caricature portrayals, exoticism, sexism, and fundamentalism that have been plaguing our world.

Academics should be more open to working with learners and other communities of practice in the development of OER. This applies not only in OER per se, but also in the way we conduct our research. This goes beyond the issue of popularization. It is more about understanding their perspectives and worldview to make OER more sensible to their lived experiences. We should maintain our rigorous research methods even as we explore more accessible ways of disseminating research results. In this way, we can share the products of our research as OER in a relevant manner to a wider audience.

If academics fail to see the opportunities of working with learners and other stakeholders in the educational system, commercial providers

would fill the void. I have no problem with private sector participation in education. However, universities should still play a leadership role in the OER movement. The juggernaut of consumerism has its dangers and we should remain vigilant about it.

Third is the non-linearity of the medium. Traditional cultures like those in Asia has a long oral tradition. In Thomas J. Farrell's commentary on Walter Ong's work on orality and second orality, he said orality is participatory while print is objectively distanced. In orality, the author is dubbed as the performer, however, the listener is part of the performance and is therefore likewise the author. The online environment in which most OER are embedded is capable of reconfiguring a space for second orality through its use of hypertexts and hypermedia, and hypermultimedia. Hypertext brings back the non-linear, non-hierarchical organization of information of primary orality. The digital text has given the ordinary people voices, thus expanding the democratic space.

Indeed, e-learning technology is characterized by that unending cycle of conversations and dialogues. Just like the way we have become conversant in the technology of writing, teachers and learners will have to be eloquent in this new technology. Teachers and learners will have to go beyond traditional technologies' linear nature and understand and appreciate how to think non-linear as well. As Prof. Mangla Sundara Krishnan said, a number of interactive technologies are now available for us to explore. This has implications on how we recruit, train, and even compensate our teachers who will be involved in OER design, production, and delivery. Institutions must provide the capacity building for sustainable development of quality learning materials as cited in the 2012 OER Paris Declaration shared by Prof. Asha Kanwar.

Fourth is instilling the universitas ethos in the electronic environment. In conventional education, the spirit of the universitas is manifested in the way classes are conducted, research is undertaken, or even in the cultural activities as well as sporting events held on campus. In an educational system with multitudes of highly dispersed learners, how do we instill the universitas ethos? How do we then propagate these values in an online environment? How do we redefine the spaces for socialization for highly dispersed learners who use OER? Should we create new rituals for the performance of this ethos? How do we make social networking a tool not just for entertainment but a community of scholars? These issues offer exciting possibilities for us.

Fifth, we have the issue of digital divide. While OER do not have to be digital, the vast majority of them are. In addition, digital OER are easier to propagate and reuse, and are more interactive. Just as ICT can be used to reach sectors that are not served by the conventional educational system, ICT can also marginalize people who do not have access to it. This is a special concern since most of those without access are poor and cannot avail of traditional modes of learning, as suggested in the presentation of Prof. Gwang-Jo Kim. To address this concern, we need to improve the ICT infrastructure in the rural and poorer areas in the region. This can be addressed by working with governments and the private sector.

The use of ICTs, and the web in particular, has an internal logic to it and therefore requires a set of knowledge skills. For us educators, the bigger challenge is how we can assist disadvantaged people to overcome this cognitive divide. In addition, we may also need to explore more ways of combining digital OER with earlier media (e.g., TV, radio, print) to address the needs of certain sectors.

Lastly, the question of "who pays?" is something that universities should not leave solely to the market. There are emerging business models around OER and they have an important role to play in OER development. Prof. Wayne Mackintosh shared with us how international collaboration between universities can help sustain OER initiatives. As Prof. David Wiley suggested, we should continue evaluating not only the use of OER, but also its impact and costs.

In addition to these emerging models of partnerships, universities also need to play a stronger role in advocating for public funding of OER. The long-term sustainability OER will ultimately depend on governments and other agencies that have a stake in learning. The OER is too crucial a factor in our society's future to be left to the vagaries of the market and its tendency to focus on skills and techniques.

Going back to the show "Maki-Makiling," I now realize that its fruition was made possible by

several factors. From the start, we were motivated by the need to communicate science and technology to a larger community. We made sure that the scientific concepts and principles were never compromised at the expense of entertainment. We got the best experts in the community to talk about the science and technology issues. The show provided a space not only for the scientists but also the common man/woman on the street. Despite limited budget and other constraints, it pushed through because it was run practically by professional staff members from the university and the member organizations pro bono. The local operator also disseminated it for free. It was an act of volunteerism and public service, an expression of plurality of ideas, access, and quality—the same values that cut across OER, open knowledge, and the universitas.

These are indeed exciting times for OER, which offer a lot of opportunities for experimentation and innovation. It is here today and will proliferate more so in the future. We hope that with this conference, we can better prepare ourselves for the opportunities and challenges that lay before us as educators and learners in the digital age.


## Wood is Good: Claiming Spaces and Voices in a Digitized World

15 November 2013

The globalization discourse has been a thick discourse for a long time and is now here. There is the free flow of not only products and people but more specially ideas. It is now the 13th—that's a good number for me—13th year of the 21st century and I can understand our concern and the efforts of the International Wood Culture Society (IWCS).

IWCS is an international network of wood enthusiasts, dedicated to the research, education, and promotion of wood culture. IWCS promotes the value and usage of wood from a cultural perspective with the message "Wood is Good."

I come from the leading provider of distance education in our country—the University of the Philippines Open University (UPOU). As an online university, you might be wondering how did we become involved with IWCS?

Before I share with you our involvement in wood, let me tell you more about my home institution.

UPOU is the fifth constituent university of the University of the Philippines (UP) System, which has been around for more than a hundred years. UP is a national university composed of constituent universities known for their academic excellence, progressive values, and service to the nation.

UPOU is mandated to provide quality higher education, especially in areas that do not have a UP campus. The university currently offers a number of bachelor programs and a wider range in graduate diploma, masters and doctorate programs in education, information and communication studies, and management and development studies.

UPOU has chosen to deliver its courses 100 percent online. We have maximized the affordances of the web to enhance our students' learning experience. Through online learning, we were able to reach students from over 60 locations in 40 countries around the world.

Our learners, teachers, and researchers engage in all of these types of interaction online: the course materials are in hypertext, hypermultimedia from print to videos, and interactive digitized materials, making use of MyPortal, a learning management system. This is the site of my course where I engage my students with various types of interaction (i.e., learner-content interaction, learner-learner interaction, learner-teacher interaction, and learner-teacher-and the community of practice interaction), all as researchers, innovators, and creators of written, oral, and visual text. As an online university, our world revolves around the virtual world. It is a constantly shifting space of the hypertexts, hypermedia, and the rich media. How did we end up with our wood advocacy? Isn't a resource as organic as wood incompatible with the cyberworld?

As an online university, our world revolves around the virtual world. It is a constantly shifting space of

the hypertexts, hypermedia, and the rich media. How did we end up with our wood advocacy? Isn't a resource as organic as wood incompatible with the cyberworld?

Our affinity for wood is actually consistent with UPOU's character as an academic institution of higher learning and also my identity as an academic and practicing artist.

Universities are not only hotbeds of innovation, they are also vanguards of cultural heritage. It is because of these that my administration has supported the promotion of the arts and culture, including the celebration of the International Wood Day.

On 21 March 2013, UPOU co-sponsored a wood carving competition and exhibit entitled "Wood: Art, Joy and Culture" held in Diliman, Quezon City. It was organized with the support of IWCS and the UPOU Foundation, Inc. Held in observance of the International Wood Day, the event was part of the activities lined up in celebration of UPOU's 18th anniversary. The event was spearheaded by Associate Prof. Consuelo Habito in cooperation with the Faculty of Management and Development Studies and the UPOU Cultural Committee.

In the Philippines, there is a long history and generations of artists handing down to their sons and daughters the mastery of sculpting wood into images for worship for everyday use. They also produce furniture and décor, as well as pieces of art for sale. The artists are the innovators and creators of design, translating raw wood as a medium into artworks that carry with them the narratives of a people in their communities.

Two towns known for woodcarving are Paete in Laguna and Betis in Pampanga, both provinces in Luzon, the largest island of the Philippine archipelago. The artifacts include art for the church and the mini altars of the middle class and the privileged. The concept of the sculpture pieces and wood cultural products was to adorn the churches, produce benches for church goers, and home decor and furniture. Together with the churches' domain are the rituals of the towns, which are mirrored all over the country as these two towns supplied the religious images for processions during town fiestas, festivals, and religious celebrations.

There was a time when these towns commercially boomed but they survived the time when commerce and movement of goods for export in the 1970s to the late 1980s saw the dilution of artworks. Demand for artworks dropped into manageable volumes but brought back the concern for quality. This is due to the availability of mass-produced wood products at low cost that came from outside the country and claimed the market.

The exhibition and competition was also cultural dialogue of artist sculptors from the two towns where sculpture in wood is a way of life. Never before have these two groups of artists joined forces, met, and dialogued about wood. It happened at UPOU on that day.

I will share with you part of the narrative of these two towns in the Philippines that are known to have hundreds of years of tradition in woodcarving. The artist sculptors of these towns have been carving the "santos" or saints that are installed in churches and paraded in town processions that take place about three times a year. These church rituals, including town fiestas, are celebrations of the town's patron saint and are related to agriculture as well. However, religious images are no longer the staples of the artists of these towns.

At the World Wood Day exhibit and competition, the changing forms in the sculptural works of the artists of these towns were evident. The maximum care in their rendering showed their consciousness of the value of wood.

Though we can say that all 24 entries created by the artists for this cultural exhibition and dialogue were all engaging and outstanding, let me mention some notable qualities of some of the works:

- "*Masarap, mabango, di matigas, di malata, katamtaman isaing*" (Good taste, good smell, not hard, not soggy, just right to cook) is a painted wood bas relief by Angelito Baldemor. We see the work to be a reflection of an agricultural town, a reality felt by the people of the community. Seen is the realistic handling of the important rice crop, showing its detail and abundance.

- "Ressurection" by Lamberto Baldemor is a drift wood incorporated in a religious figure. This is an example of recycling and using found wood as a major part of the materials used. It is harmonious yet innovative approach to the work.

- "Maria Masagana" (Maria, the Prosperous) by Benjamin Dailo depicts a woman with an umbrella. It combines the strong natural grained wood with resin for its extensions. It demystifies the woman's body. It sees the figure of the woman's body not as a sex object but as a symbol of bounty and confidence.

- Mother and child is a usually celebrated icon in the Philippines, but what makes this work stand out is the detailed and painstaking sculptural work on ordinary wood, a material that is not of prime quality. It even highlights the unarticulated grains and the wood's lack of color. The artist did not hide the color where others might apply stain to hide the dullness. This makes the sculpture honest and true to its material. In our wood culture, wood with deep color is given more value; but here, value is given to the ordinary and the common.

There are many questions that come to mind in the praxis of art in our communities in a world where globalization is now a reality:

- Will we see the talents that have been honed through generations in their specific communities suffer the migration of their artists to other countries where wood is still abundantly available?
- Will we see the continuing high cost of wood in countries that have passed laws banning logging in many areas of their land?
- Will we have occasional sculptors who use trees that fell from strong winds, typhoons, and strong water flow putting wood supply at sustainable levels for cultural production?
- Will these encourage the rise of art forms in wood and carry the face of a "world wood culture" bereft of or without the richness of cultural diversity grounded on the ways of life of communities of practice as enriched by their community's history and values?

As a university, UPOU sees a facilitating a role in the promotion of these discourses. As a cyber university, we are used to navigating spaces that cut across boundaries. I believe that we need to maximize the affordances of Web 2.0 and use the interactivity and the ubiquity of information and communication technology and the Internet in mapping initiatives of the peoples of the world in putting to praxis the concept that "Wood is Good."

Networking in the virtual world is key. The Internet is a limitless space. Being able to know what people do with wood in terms of its use and consumption and its propagation does not only deal with the survival of wood and trees, but is also a matter of survival of people and their humanism and spirit. Wood is a consumable resource that people for a long, long time have benefited from, have gotten protection from, and have lived with. There is no way but to be concerned with how we can make sure that people think deeply with passion about its care and replenishment. This should be of greatest import—to be able to do this is for all peoples of the world to be engaged and to have the resolve that will remind us all that wood is getting to be and can be at critical levels. This puts into question how to sustain the joy that it brings as being part of people's lives.

We cannot imagine how the world will be without wood. We need to find how people and wood or nature can coexist and co-depend on each other. We have to push for multimedia as research. We have to document how artists working with natural materials, like wood, work.

To do this, we have to accelerate the claim of our voices and spaces in the virtual world for the sake of wood and ourselves.

Today, we live in the digital age, with hypertext (digitized print), hypermedia (with the graphics and photos), hyper multimedia (video and rich media) that capture the authentic beat of how we live with wood, how we celebrate wood, how wood and people coexist and co-depend on each other. We have to also document how artists all over the world live with wood as medium and how through knowing its nature, they can co-create and help people tell the stories of their lives in our one and only world.

On this note—on the concern about wood—I'd like to share some happy thoughts. I know of families who plant a tree every time there is a newborn child in their family. At UPOU, we have a program called Earth Ambassadors who sang in the World Wood Day celebration last March in

praise of planting trees. It is part of the extension program of the Faculty of Management and Development Studies working with children in basic education in the same region where Paete is and where our artist sculptors live. With this program, we hope to develop the advocates for the environment of the future.

Once again, I would like to thank the IWCS for inviting me to share my ideas on this occasion.

Good day to all!

## Open and Distance e-Learning: Creating Spaces and Possibilities in an Open and Digitized World

6 December 2013

The arrival of the digital era and recent developments in the global economy have offered vast opportunities and challenges to universities worldwide. The globalization of ideas has increased the movement not only of products, but also of people and ideas. Information and communication technologies (ICTs) have also given rise to knowledge-based industries and jobs that were nonexistent several years ago.

Compared to our generation, graduates of today are expected to change careers several times in their work life. The rise of the so-called network society shall further increase the mobility of professionals and require people to regularly acquire knowledge and skills in dynamic environments. As people and organizations expand their exposure to international markets, more and more learners will require transnational education that goes beyond traditional modes of learning.

As such, higher education institutions need to re-examine their approaches in the light of the demands of the global era and the digital age.

Universities of today should produce graduates who have the ability to seek new information from different sources, translate this information into applicable knowledge, and communicate this knowledge in various forms and situations. They should be able to work in different cultural contexts. This creates a challenge to make our programs more international in perspective without losing their relevance and meanings to their national contexts with an emphasis on respect for cultural diversity.

To cater to the needs of this new breed of learners, many educational institutions have considered alternative modes of educational delivery, including distance education and e-learning.

The flexibility of distance education has opened up opportunities never before seen in the educational system. With its flexible and open philosophy, open and distance learning (ODL) has made education accessible to people who are not reached by conventional universities. From the early print-based models of delivery, advances in ICT have transformed distance education. In the past, most ODL institutions deliver a large part of their course content through print, radio, and television.

The arrival of the Internet has enabled ODL institutions to get into what Otto Peters called “digitized” distance education.

In recent years, educational institutions have also felt the need to cater to the increasing demand for cross-border education. Institutions of open, distance and e-learning are well positioned to propel them to cross-border education given their experience in ICT-enhanced modes of delivery. In their efforts to control border education, governments may be forced to internationalize their accreditation systems.

Another trend in the higher education sector is the increasing demand for professional graduate and continuing education. There is a growing number of mature learners out there who do not see the university as central to their lives. These students will prefer to study part-time and acquire the skills necessary to advance themselves in their careers. E-learning has proven to be a viable option in reaching out to this group of professionals. To cater to these learners, many conventional universities have gotten into blended learning, combining traditional classroom practice with e-learning solutions.

In addition to exploring more flexible teaching approaches and open system of admission, universities are also beginning to see the value of openly sharing their learning resources at no cost. The development of free and user-friendly ICT has brought down the cost of producing learning resources. This coupled with the principle that knowledge must be free—as the United Nations Educational, Scientific and Cultural Organization (UNESCO) has repeatedly declared—has contributed to the propagation of open educational resources (OER). OER are "digitized materials offered for free and open for educators, students, and self-learners to use and reuse for teaching, learning, and research." OER fit with the open learning philosophy as they expand access to learning for everyone, particularly the non-traditional groups of learners.

Related to the spread of OER is the rise of Massive Open Online Courses (MOOCs), which are online courses that are openly accessible to large numbers of learners. MOOCs make use of OER and are meant to make education more reachable to ordinary people. The course content in MOOCs is delivered through interactive web-based technologies. Learning materials are often packaged in multimedia formats.

Online learning activities like quizzes and discussion forums are usually incorporated. Individual learning is highlighted and one is virtually connected to the ideas of both experts and learners in the fields either asynchronously or synchronously. Peer evaluation is usually used but in some cases, evaluation and measurements are included with tutor presence. Usually in format of rich media.

A MOOC has an interactive dimension to it because it has grounded itself into a connectivist pedagogy of teaching and learning with the faculty presence in its instructional design. Online learning activities like quizzes and dicsussion forums are usually incorporated. Individual learning is highlighted and one is virtually connected to the ideas of both experts and learners in the fields either asynchronously or synchronously. Peer evaluation is usually used but in some cases, evaluation and measurements are included with tutor presence. Reposition cases are usually in rich media format.

Some traditional universities have designed their own platforms to deliver their MOOCs, for example, Coursera, Udacity, and edX created by Massachusetts Institute of Technology (MIT), Harvard, and Berkeley, and FutureLearn created by UK Open University, to name a few. At this point, their courses are basically offered for free. Some have built in assessment or evaluation for a minimal fee. Some give out certificates of completion, while others do not. Some formally credit the courses taken as MOOC towards formal programs, while others do not. Now that I have presented the global trends in distance education, let me share with you the UP Open University (UPOU) experience.

To contextualize my presentation, let me share with you our experiences as an educator and administrator of an institution of open and distance e-learning (ODeL) in the country. Let me emphasize that UPOU's experience is just one in the range of e-learning models that one might learn from. This is not meant as a normative account of ODeL, but more like a discussion of the context in which I will be discussing the issues in ODeL that we educators need to tackle. We at UPOU take ODeL as a worldview. It merges and tries to maximize the affordances of the concepts of open philosophy of open learning, the flexibility and learner-centeredness of distance learning, and the ubiquity, connectivity and interactivity of e-learning.

UPOU is the fifth constituent university of the University of the Philippines (UP) System. The creation of UPOU was a response to a felt need. Because of the limited resources of the residential colleges in other University of the Philippines campuses, UP can only accommodate a certain group of applicants for admission. Through the distance education provided by UPOU, UP is able to respond better to the demand for quality higher

education, especially in areas which do not have a UP campus.

UPOU has chosen to deliver its courses 100 percent online. It sees learning as being able to access course materials in hypertext, hypermedia, and hyper-multimedia or rich media from UPOU resources, repositories/libraries of the world, and multi-texts from communities of practice.

When UPOU was established 17 years ago, it taught primarily through stand-alone printed modules. With the growth of the Internet at the turn of this century, UPOU shifted its gears and adopted online teaching and learning. At that time, there were concerns about the readiness of students to do their studies online. We weighed the pros and cons of going online. We examined the technological and learning environments. We noticed how academic texts in print were partially migrating into other forms of media. Harnessing the advantages of these technologies, UPOU decided to look at e-learning as a means to enrich the learning experience of our students. In addition, e-learning enabled us to expand our reach abroad. At present, our students come from over 40 countries and students abroad comprise 20 percent of our total student enrollment.

We currently offer undergraduate programs, post-baccalaureate certificate, diploma programs, master's programs, doctoral programs, and professional continuing education courses. These are offered by the Faculty of Education, Faculty of Information and Communication Studies, and Faculty of Management and Development Studies.

The recent global trends and UPOU's experience have shown that the Internet has made distance education more interactive and ubiquitous. The non-linear nature of web-based technologies has allowed for more independent, problem-based, and creative learning opportunities for our students. In more recent literature on education, no longer is evaluation the highest level in the cognitive domain of learning; it is creation. It is by becoming creative that we foster higher, if not the highest, order thinking skill not only for our learners but for ourselves as well. Web 2.0 applications (e.g., online communities of practice and networks, on-demand podcasts, social networking sites) have transformed learners from consumers to producers of ideas and knowledge.

Traditional cultures like that of the Philippines has a long oral tradition. According to Thomas J. Farrell, orality is participatory while print is objectively distanced. In orality, the author is dubbed as the performer. However, the listener is part of the performance and is therefore likewise the author. Since the web is a non-linear medium, web-based learning enables the reconfiguration of a space for Walter Ong's concept of second orality through its use of hypertexts and hypermedia. Hypertext brings back the non-linear, non-hierarchical organization of information that characterize primary orality.

UPOU has adopted these web-based technologies not only to deliver content, but also to design learning activities that foster analysis, reflection, interaction, and creativity. In this environment, the students gain more power and become more accountable for their own learning. We try to maximize and enrich the learning online experience through these types of interaction:

- Learner-content interaction
- Learner-learner interaction
- Learner-teacher interaction
- Learner-community of practice interaction

To further expand our reach, UPOU launched its first MOOC, an open online course on android apps development for free. This will be followed by another MOOC on technopreneurship. Talks are also underway for the creation of other MOOCs to serve the needs of our workforce.

We are collaborating with other institutions for the development of MOOCs in e-Teaching of World Languages to help in the preparation of our hundreds of thousands of school teachers, more particularly English language teachers, to be able to teach a third language. A law has been passed in our country to teach a third language in our Basic Education system

As part of helping professionalize some backbone industries of the country, UPOU is also working with the local Business Processing Outsourcing industry for the development and delivery of MOOCs in service management to address the rapidly increasing demand for talent of our ever-expanding BPO sector.

Likewise, we will soon develop MOOCs for International Relations Management for the Department of Foreign Affairs. We are aware of the issues surrounding present-day MOOCs and

are thinking of ways of using the UPOU approach and standards on our own MOOCs which we call Massive Open Distance eLearning or MODEL courses.

Despite the challenges of sustaining open educational resources (OER), UPOU has initiated some efforts along this line by using UPOU Networks as repository for OER, with some rich media produced by UPOU's Multimedia Center.

We have conducted a seminar series on OER to introduce its philosophy, benefits, prospects, and challenges to our immediate academic community. We are also in the process of making our course materials more available to more people. We have created the UPOU Networks, a web-based open repository of educational resources in rich media. UPOU has also collaborated with five open universities in the region for the institution of a Master of ASEAN Studies program and development of course materials to be shared among the member institutions. Despite these efforts, UPOU is aware that there are still some issues in ODeL that we must address as an academic community.

First, there is a need to do more research on the co-creation of knowledge and practices in the context of the ODeL communities. At present, UPOU's faculty members and research staff have been active in conducting studies on ODeL as well as presenting papers at international conferences. Nevertheless, there is still a lot more that can be done to assess the effectiveness of the pedagogical practices that we are employing in our online courses. While UPOU requires faculty members to publish their work in peer-reviewed journals, I also encourage academics to disseminate their work in social media and for universities to recognize these efforts as part of the universities' extension function. In addition, we must also use multimedia not only as an object of study, but also as a methodological approach and a means to disseminate our research findings beyond academic circles.

Second, we need to work with more partners to help address issues of digital divide in the country. As of now, the UPOU has been working with various institutions like the Telecentre.org to establish Internet-enabled computer centers in remote parts of the country. In some of our scholarship programs, we have sought to include netbooks, Internet access, and broadband sticks as part of the package of financial support to deserving students. In addition to such interventions, as an e-learning community, we must also find ways by which we can tap the most ubiquitous of all ICT tools in the country—the cellphone. It is estimated that there are 106 million mobile phone subscribers in the country, about two-thirds of whom possess an Internet-enabled device. The e-learning community must be able to harness mobile learning or "m-Learning" as a tool for reaching out to the marginalized sectors.

Third, we need to seek more partners in the development of OER from the Filipino and ASEAN perspectives to complement the existing Western-centric OER. In global terms, this country has been a net consumer of academic texts. Given our facility in the English language, we have basically depended on Western-produced materials to help us with our teaching and learning functions. As part of the global community, the Philippines has to share its experiences and perspectives by putting all our academic texts out there in the web for the global community to consider and use. Filipino scholars will have to claim our space in the limitless web. Our voices, narratives, ideas, concepts, and constructs have long been drowned by ideas from big nation states in the traditional forms of publications, books, and libraries. Let us proliferate the web with Filipino scholars' works and voices for us Filipinos and for the many other developing countries in world. Let us be in the forefront of this movement together with the many others whose voices have been marginalized for so long and push for respect for cultural diversity.

Fourth, there is need for preparation of our teachers for the non-linear nature of the web. While our current crop of students has been born in the digital age, many of us are simply immigrants to this highly connected and constantly shifting world. E-learning technology is characterized by that unending cycle of conversations and dialogues. It has that openness for the thickening of discourse that is recorded through this flickering medium. If universities were to maximize the affordances of the web, teachers and learners will have to be eloquent in this new technology just as we had become conversant in the technology of writing. Teachers and learners will have to go beyond traditional technologies' linear nature and understand and appreciate how to think non-linear as well. This has implications on

how we recruit, train, and even compensate our ODeL teachers.

Lastly, it is also imperative to explore ways to incorporate in the digital environment the academic ethos that have sustained universities for ages—excellence, academic freedom, humanism, intellectual pluralism, and service to society. MOOCs have revolutionized teaching and learning by making lifelong learning opportunities more accessible to ordinary citizens. It has worked because it made use of the connectivity that is inherent in social media to connect a wide network of learners and experts. In the formal education sector, we have yet to maximize the benefits of social media in our classes. At UPOU, there are a few faculty members who have experimented on the use of Facebook and other social media to facilitate interactions among learners. However, there is still some work to do to make social networking sites a tool not only for entertainment but also a potent means for meaningful learning.

As part of our initiatives to provide a platform for discussing these issues, we have organized the 1st International Conference in Open and Distance eLearning (ICODeL) in 2012. We invite you to be part of our continuing conversations by attending the next ICODeL slated on 18-20 June 2014 at the Crowne Plaza Galleria Manila.

In the digital age, one can observe how social media has been a central venue of Filipino conversation, voices, and dialogue. We have become eloquent in the use of ICT in our everyday lives. Our students are digital natives. Let our scholars, faculty, and other teachers and learners bring these into the education landscape and make our classrooms—be they physical or virtual—a richer and more vibrant teaching and learning environment. E-Learning is a mode of education that offers possibilities not only to distance education institutions, but also to conventional universities. I encourage everyone to take advantage of these affordances to enhance our learners' experiences.

Let us claim the virtual academic spaces as our learners and teachers become co-creators of academic texts and help forge social transformation through social justice.

Thank you for allowing me to share the UPOU narrative. I know that you will have a fruitful international congress on e-learning.

Congratulations for gathering together the many e-learning believers.



## Open and Distance e-Learning: A New Culture of Teaching and Learning in a Digitized World

5 February 2014

President Yoichi Okabe, Chancellor, Katsuhiko Shirai,Prof. Kumiko Aoki Chair of this international symposium, Prof. Makiko Miwa OUJ Chair of the International Committee, our distinguished speakers Sir John Daniel Director Andrew Law Professor Jan Herrington university officials, of OUJ and other universities faculty, researchers, ODL practitioners colleagues and friends good morning.

We are together today because we are all interested in the new culture of teaching in learning ushered in by the ever-changing landscape of education in a networked society. Open University of Japan (OUJ) is known in the region as a progressive institution of open and distance learning (ODL). And I can understand the enthusiasm and the consistent involvement of OUJ to develop academic excellence and, at the same time, address the ever-changing landscape of education in a networked society, which has now leaped to a larger concept that have stirred not only ODL institutions, but also residential or what we term as "brick-and-mortar" universities as well.

I speak from my experience as an educator, an administrator, and a media practitioner as well as from having witnessed for several decades now how the educational landscape has been altered by socio-cultural, economic, political, and technological factors. I would like to share with you my thoughts on three main points.

First, I would like to describe to you the global trends that the digitized world has ushered in, a fast-emerging new culture of learning and teaching. Second, I would like to share with you the UP Open University (UPOU) narrative as it adapts the open and distance e-learning (ODeL) as a worldview, as well as my own personal experience as I teach a number of courses that are completely online. Lastly, I would like to share with you the challenges that we will have to deal with as scholars and academics in our digitized world.

The residential universities and colleges of the world are moving into quasi-distance education, blended, flexible, and learner-centered. The residential mode, which is purely face-to-face, brick and mortar, classroom interaction, is moving towards exploring the affordances of the limitless web to enhance the teaching and learning experience in academe and to address the issues of inclusion and openness. In the digital world and the Web 2.0 era, there has been a shift in attitude towards a culture of sharing and giving and of greater access to resources.

The arrival of the digital era and recent developments in the global economy increased the movement not only of products, but also of people and, more especially so, of ideas. The global economy has offered vast opportunities and challenges to higher education institutions (HEIs) worldwide. As people become more mobile, they demand to have access to quality continuing

information and education wherever they are. In particular, information and communication (ICT) has also given rise to knowledge-based industries and jobs that were nonexistent several years ago.

Compared to our generation, today's graduates are expected to change careers several times in their work life. Senior citizens are expected to have second careers. This has thus brought to fore the new wave of "open education" and has excited all sectors from the working force to the academe, governments, communities of practice, and massive industries. The rise of the so-called "networked society" will further increase the mobility of professionals and require people to regularly acquire knowledge and skills in dynamic environments.

As people and organizations expand their exposure to international markets and environments, more and more learners will require transnational education that goes beyond traditional modes of learning. The ubiquity of ICT has merged media institutions, educational institutions, and communities of practice into a new paradigm of building global teaching and learning communities, changing how new knowledge happens. Virtual communities are erasing old boundaries and borders, and have changed the way we think and how we try to solve our problems and challenges.

When ICT was a non-concept, we moved our ideas en masse—our concepts, constructs narratives, experiments and researches—making new knowledge happen through the technologies of writing and printing hard copies distributed to biblioteques and libraries of the world. The education system is the most voracious consumer and producer of the hard print text. This has been perpetuated and basically remained unchallenged for generations because of the intellectual property system. All world education institution ratings and accreditation systems are founded on this system. Today, in the digital era, we see the migration of print into hypertext, visual texts as hypermedia, and audio and moving images as hyper-multimedia or rich media.

The new systems of repositories of digitized academic materials have affected traditional biblioteques and libraries, leading to the closing of publishing companies that produce books distributed physically. Some of them have moved on to reinventing their distribution systems, including the services they provide to scholars.

In a digitized world, a new culture of sharing and giving of greater access to resources is happening. Traditional universities led by some of the Ivy League institutions have shared their materials for free. The likes of Massachusetts Institute of Technology (MIT), Harvard, Stanford, Berkeley, Princeton, and many more have led the leap to opening up their curricula, syllabi, and other educational materials for the public to access.

Search engines have been designed to make access to online respositories of such materials within the reach of learners all over the world. Examples of these are e-journals and search engines like Google Scholar, RefSeek, and Academic Materials, and many others.

The new mode of being able to move academic texts worldwide with so much rigor are in the form of Massive Open Online Courses (MOOCs), which are web-based courses that are open to unlimited number of students, usually by the thousands. MOOCs are delivered through interactive web-based technologies. Learning materials are often packaged in multimedia formats. A MOOC has an interactive dimension to it because it has grounded itself into a connectivist and constructivist pedagogy of teaching and learning with the faculty presence in its instructional design. Online learning activities like quizzes and discussion forums are usually incorporated. Peer evaluation is usually used but in some cases, evaluation and measurements are included with faculty and tutor presence. Most MOOCs are in the format of rich media, that is, videos.

Some traditional and open and distance learning (ODL) universities and profit and non-profit institutions have designed their own platforms offering courses or subjects developed by different universities. Examples of these are Coursera, Udacity, and edX created by MIT, Harvard and Berkley as well as Openlearn and FutureLearn of the UK Open University, to name a few. At this time, their courses are basically offered for free. Some have built-in assessment or evaluation for a minimal fee. Some give out certificates of completion, while others don't. Some formally credit the courses taken as MOOC towards formal programs, while others don't. I am glad that director Andrew Law is here to tell us more about Openlearn and FutureLearn.

In 2000, there were 360,985,492 Internet users and in 2012, there were 2,405,518,376. Internet usage shot up with 566.4 percent increase in 12 years. Some predict that this same rate of increase will happen in only six years. As of now, 47 percent of Internet users are in Asia. The moment your institution is online, you are likewise accessible to all those who have smartphones so then you are mobile. Over 6.8 billion mobile phones are used in the world that has a population of 7,012,000,000. This means that 87 percent use cellphones and a great percentage are concentrated in Asia.

What is the direction in the future? The future scenario includes e-culture and e-mobile.There is a strong push for governments around the world to implement e-government, which means open data that is accessible anywhere, making transactions ubiquitous, that the citizenry is connected to its government at any time. All transactions will be available online and they are all mobile and personal. This will be happening very soon. I recently attended an international convention of FUTURE-GOV, where 300 top government officials from different countries were present.

All were trying to find e-solutions for their government procedures and transactions, exchanging the best practices in the world, and selling the culture of advocating e-government transactions in everyday life. Therefore, not only commercial transactions will be available on demand—the likes of bank deposits and withdrawals online, e-shopping, e-booking for travel—to name a few. We have had these for quite some time.

When this is fully implemented, it becomes a social contract with the citizenry. The general public expects efficiency, immediacy, accessibility, and connectivity of all services. This becomes second nature and a way of life, with people expecting nothing less in all the other services extended by both private and government institutions. Then we shall definitely see e-mobile, e-culture, e-teaching, and e-learning prevailing.

Along with the proclamation of the United Nations Education, Scientific and Cultural Organization (UNESCO) that education, research and knowledge should be free, we also saw the rise of a new culture of sharing among higher education institutions, including the production of open software, open educational resources (OER), and the Creative Commons, Academic Commons, and many more free of charge. These licenses allow creators to communicate which rights they reserve and which rights they waive for the benefit of recipients or other creators, with copyright and copyleft as coexisting systems.

We see teaching and learning at all levels. In the work place, e-learning platforms offer different types of courses directly to the public. On television, we view a stream of documentaries, exposés, instructional shows, and discussions on public issues so that new knowledge, teaching, and learning transpire at all levels. More and more teaching and learning happen beyond universities and colleges. We see the ubiquity, connectivity, and interactivity that ICT offers.

Another trend in the higher education sector is the steadily increasing demand for professional graduate and continuing education. There is a growing number of mature learners out there who do not see the university as central to their lives. The senior citizens are included here and they are a growing sector, too. These learners will prefer to study part-time and acquire the skills necessary to advance themselves in their careers.

After sharing with you some global trends, allow me to share with you the UP Open University (UPOU) narrative. UPOU is the fifth constituent university of the University of the Philippines (UP) System, the national university, which is composed of constituent universities known in our country to pursue academic excellence, progressive values, and service to the nation. The university has been around for more than a hundred years. UPOU offers Associate in Arts, bachelor, diploma, master's and doctoral degrees as well as non-degree programs in three areas of studies: education studies, information and communication studies and management and development studies.

The creation of UPOU as a constituent university of UP was a response to a felt need to be more inclusive. Through the distance education provided by UPOU, the university system is able to respond better to the demand for widening access to quality higher education, especially in areas that do not have a UP campus.

When UPOU was established 19 years ago, it taught primarily through stand-alone modules in print. With the growth of the Internet at the

turn of the century, UPOU shifted its gears and partially adopted online teaching and learning in 2001. At the time, there were concerns about the readiness of students to do their studies online. UPOU weighed the pros and cons of going online, examined the technological and learning environments, and noticed how academic texts in print are partially migrating into other forms of media.

To harness the advantages of these technologies, we decided to look at e-learning as a means to enrich the learning experience of our students. In 2007, we went completely online. Adapting open and distance e-learning (ODeL) has enabled us to expand our reach abroad. At present, our students come from over 60 locations in more than 40 countries and they make up 20 percent of our total student enrollment.

The adoption of ODeL also encouraged us to adopt online technologies to deliver student support services. We developed an online system for submission and viewing of students' grades. UPOU also established an online registration system that allows multiple methods of tuition fee payment. Also in place are our e-library, e-counseling, free distance education readiness course (a precursor of a massive open online course or MOOC), and a virtual learning center.

To further expand our reach, UPOU launched its first MOOC that is free for all. The project involves the development and delivery of open online courses (OOCs) in android apps development and technopreneurship. It was launched a few months ago and the first offering ended recently. Though I still don't know how many were able to finish the course, this is being studied well. It has a strong research component and all the course materials developed were shared as OER. There will be about 40 more MOOCs by next year.

Talks are also currently underway for the creation of OOCs to serve the needs of our workforce. We are collaborating with other institutions for the development of an OCC in e-Teaching of World Languages to help prepare our hundreds of thousands of school teachers, more particularly English language teachers, to teach a third language, in view of the law passed in our country to teach a third language in our Basic Education system.

UPOU is also in talks with the local Business Processing Management (BPO) industry for the development and delivery of MOOCs in service management to address the rapidly increasing demand for talent of our burgeoning BPO sector. The non-linear nature of web-based technologies has allowed for more independent, problem-based, innovative, and creative learning opportunities for our students. In recent literature on education, evaluation is no longer the highest level in the cognitive domain of learning; it is creation. It is by becoming creative that we foster higher, if not the highest, order thinking skill not only for our learners, but for ourselves as well.

Web 2.0 applications—like online communities and networks and social networking—have transformed learners from consumers to producers of ideas and knowledge. Web-based learning is capable of reconfiguring a space for orality.

UPOU has adopted these web-based technologies not only to deliver content, but also to design learning activities that foster analysis, reflection, interaction, and creativity. In this environment, the students gain more power and become more accountable for their own learning. UPOU's teaching and learning approaches have been shaped by its immediate context and developments in the fields of open learning, distance education, and e-learning. These ideas are encapsulated in a worldview that we call ODeL.

ODeL as a worldview draws from the features and affordances provided by open learning, distance education, and e-learning, including access and equity, resource sharing, learner-centeredness, flexibility, active learning, interactivity, ubiquity,, and connectivity. Some of these features, like access and equity, are more in tune with open learning. Others like learner-centeredness, flexibility, and active learning are shared by the three domains. Ubiquity, interactivity, and connectivity are more of e-learning's contributions. We at UPOU adopted ODeL as a worldview.

We moved to maximize the affordances of the concepts of the philosophy of open learning; the flexibility and learner-centeredness of distance education; and the ubiquity, connectivity, and interactivity with a constructivist view of e-learning. These are values that underpin the "universitas"—excellence, academic freedom, humanism, cultural diversity, intellectual pluralism,

and service to society. These ethos create the spirit of the university that we all recognize. Together, all these elements are embedded and facilitated by networked ICTs and make up what we refer to as ODeL. The inter-weaving of these components can bring about social transformation.

Let me just say that I am not the first one to espouse these values. Many ODL institutions have actually practiced these values in one form or another. ODeL is not a normative framework, but is more of an expression of values. For me, ODeL is more of a worldview—a construction of how open learning, distance education, and e-learning can converge and diverge, co-create each other, and enacted in the context of the universitas. I must say that my conception of ODeL is a product of my experiences as an educator and administrator of an open learning institution in a developing country like the Philippines. As we know, there is a range of models of ODL all over the world, each one of them valid in their respective contexts. How do I apply this framework in my classes?

At this point, I would like to share with you my experience in trying to maximize the web as partner together with my students to enhance our teaching and learning experiences. I teach several courses online. I consider my classes as research classes and I consider my students as co-creators of our academic texts. Teaching at UPOU allows me to do so because it is a university that has chosen to conduct all its courses online.  In my classes, we research, theorize, and engage in the discipline's praxis and thicken the discourse on the following: Multimedia Production (Devcom 207), Multimedia Theories (MMS 102), Theories in Communication (Devcom 310), Gender and Multimedia (MMS 111), and Videography (MMS 175).

We are able to access course materials in hypertext, hypermedia, and hyper-multimedia or rich media from UPOU resources, repositories or libraries of the world, and multi-texts from communities of practice. These UPOU-produced videos are lodged in the UPOU Networks, a web-based repository of OER in rich media. In some cases, I also refer my students to videos on You Tube or Vimeo. There are likewise numerous academic articles from the community of practice and or academic journals on the web.

Interaction in online courses take place at four levels: learner-content interaction, learner-learner interaction, and learner-teacher interaction, and learner-community of practice interaction.

Through learner-content interaction, content in distance education is delivered to students through technology. In the courses I teach, I normally require my students to view video lectures as well as read online academic articles from the community of practice and journal articles available online.

For my classes on gender and multimedia production of OER in the UPOU Networks, for example, the learners view videos that capture original texts by resource persons who are the experts in the field. The texts were turned into multimedia materials and produced by the UPOU Multimedia Center. I also refer my students to videos on You Tube or Vimeo as well as UPOU productions in the UPOU Networks.

I give them relevant guide questions, which they can ponder on as they engage with the course materials. There are likewise clear guidelines for learner-learner interaction. As you can see my students and I go beyond the use of our LMS which we call My Portal. Beyond the online forums, chat, and the course guide and resources listings. Guide questions are given in online forums which starts discussion among them. The questions enable the students to expound on the concepts covered in the course materials and apply the concepts in their own contexts. Students are encouraged to post their ideas and react to each other's postings.

To promote learner-teacher interaction, I post my course guide along with all the requirements and the points of discussion. I make it a point to give immediate feedback on MyPortal, our learning management system. I require my students to produce documentaries and narratives for my production class and videos to document mainstreaming of gender awareness in their own communities for my gender class. I am amazed at the themes and narratives pursued by the students. Not only do they tell engaging personal stories and those of resource persons, many of them also speak of the wider socio-political-economic context in which these stories are situated. This is in line with the use of multimedia as research.  After submission, I provide numerical as well as descriptive assessment of the students' work.

For learner-community of practice interaction, aside from being immersed in their communities when they do their video research, I encourage my students to enter their works in the platforms Vimeo and YouTube, digital video exhibitions, festivals, and competitions, just like the one UPOU organizes every year for its students to elevate the discourse in public spaces. Despite these efforts, UPOU is aware that there are still some issues and challenges in ODeL that we must address as an academic community.

The ODeL worldview has implications for the way we handle our academic and administrative matters in the university. It is important to instill the universitas ethos in the electronic environment. In conventional education, the spirit of the universitas will have to be manifested in the way teaching and learning happens, research is undertaken, cultural activities are held in the virtual world in an educational system with multitudes of highly dispersed learners.

How do we instill the universitas ethos? How do we then propagate these values in an online environment? How do we redefine the spaces for socialization for highly dispersed learners? Should we create new rituals for the performance of these ethos? How do we make social networking a tool for the community of scholars? I have attempted to list the more immediate concerns in view of an urgent need to embed the ODeL worldview as the framework of practice in our teaching and learning, toward strengthening the universitas ethos in our institutions and fulfilling our social contract—that is, social transformation in the digital age.

First is increased engagement in multi-disciplinary ODeL research in course delivery, course development, teaching pedagogies, assessment systems, student support, faculty and tutor development, and quality assurance systems in teaching and learning through ICT. There is a need to do more empirical and socio-cultural-critical research work on the co-creation of knowledge and practices in the context of the ODeL communities.

Nevertheless, a lot still needs doing to assess the pedagogical practices that we employ in our online courses. UPOU requires faculty members to publish their work in peer-reviewed journals. On top of this, I also encourage academics to disseminate their work in social media and for universities to recognize these efforts as part of the universities' extension function. In addition, we must also use multimedia not only as an object of study, but also as a methodological approach and a means to disseminate our research findings beyond academic circles.

Second is the production of scholarly texts in a networked world. If we really want OER for ODeL to be truly reliable, academics need to be active in producing and propagating OER that can be accessed by people around the world. We in the academia should maximize the potentials of multimedia as research, both in terms of conduct and dissemination. While printed academic journals can be digital too, they will remain the primary mode for disseminating empirical work among academic scholars. Multimedia offers a great opportunity to disseminate scientific knowledge to an audience that is becoming more accustomed to the grammars of the digital-multimedia language. ODeL teaching of world languages together with collaborative transnational efforts in more comprehensive and accurate language translations as OER must be pursued.

Corollary to this is the need for collaboration in the production of OER and other OdeL courses. In a network society, academics must partner not only with other academics, but also with communities of practice and with our learners in the production of ODeL courses and OER. There should be more East-West, East-East, South-South, and North-South collaboration to ensure that these courses and open materials are not only relevant but, more importantly, present a deeper and balanced view of the world.

Third, we need to work with more partners to help address issues of digital divide in developing countries. At present, UPOU is working with various institutions like the Telecentre.org to establish Internet-enabled computer centers in remote parts of the country. In some of our scholarship programs, we have sought to include netbooks, Internet access, and broadband sticks as part of the package of financial support to deserving students. In addition to such interventions, as an e-learning community, we must also find ways by which to tap the most ubiquitous of all ICT tools in the country—the cellphone, the e-mobile generation of tools materials and instructional designs, and pedagogies for teaching and learning that are most appropriate for this ubiquitous format.

Digital OER and ODeL materials are easier to propagate and reuse, and are more interactive. Just as ICTs can be used to reach sectors that are not served by the conventional educational system, so can they marginalize people who do not have access to them. This is a special concern as most of those without access are poor and under privileged. We need to improve the ICT infrastructure in the rural and poorer areas in the region by working with governments and the private sector. The use of ICTs, and the web in particular, has an internal logic to it and therefore requires a set of knowledge skills. For us educators, the bigger challenge is how we can assist disadvantaged people to overcome this cognitive divide.

Also needed is full support for the world movement of openness through OER, open e-Libraries, and e-repositories of all academic multimedia texts. Collaboration and partnerships with universities and institutions for e-transnational accreditation systems is necessary. Aside from government taking an active part through its national universities and other government-funded universities and colleges, we see university partnerships and collaboration in various models of OER.

ASEAN integration is happening and will strengthen in the year 2015. We see this happening with the collaboration of five open universities in ASEAN, with UPOU having developed the graduate certificate and the Master of ASEAN Studies as part of the contribution. The long-term sustainability of OER will ultimately depend on governments and other agencies that have a stake in learning. The OER is too crucial a factor in our society's future to be left to the vagaries of the market.

Fourth is the issue of plurality of ideas and respect for cultural diversity. The unending violence from conflicts of nations has shown us that the world needs more people who have greater understanding of the complexities of the world around them, a high level of tolerance for differences, and a more open mind to transformation. These are the same values that define the universitas and for us working in ODeL.

The ODeL and the OER movement has done a great deal in democratizing learning materials. However, the developing world has been more of a consumer rather than producer of content. To create a truly global perspective, developing nations like our country must find means to design, construct, and produce our information, our stories, our experiences, our interpretations, and our course materials and claim our voices and spaces in the vast limitless web. There is a need to create our own materials the way we want to create them and proliferate the web for the world to see. Only then can we talk about authentic contribution.

Academics should be more open to working with learners and other communities of practice in the development of ODeL courses using open materials as well as in the way we conduct our research as we create new and open knowledge. This goes beyond the issue of popularization. It is more about understanding their perspectives and worldview to make ODeL more sensitive to our lived experiences. We should maintain our rigorous research methods even as we explore more accessible ways of disseminating research results. In this way, we can share the products of our research as OER and open online courses in a relevant manner to a wider audience.

Universities should still play a leadership role in the OER and ODeL movement. The juggernaut of consumerism has its dangers and we should remain vigilant about it. We should continued the creation and production of original texts as well as the use of OER for massive open and distance e-learning (MODeL) and ODeL courses.

Fifth is the need to prepare our teachers for the non-linear nature of the web. Traditional cultures like the Philippines have a long oral tradition. According to Thomas J. Farrell, orality is participatory while print is objectively distanced. In orality, the author is dubbed as the performer. However, the listener is part of the performance and is thus also the author. Web-based learning is capable of reconfiguring a space for orality into what Walter Ong calls secondary orality through its use of hypertexts and hypermedia. Hypertext brings back the non-linear, non-hierarchical organization of information and communication. To come closer to local knowledge means not only gaining ethnic knowledge, but also grasping the everyday process of the communities of practice.

In this environment, the students gain more power and become more accountable for their own learning. E-learning technology is characterized

by that unending cycle of conversations and dialogues. It has that openness for the thickening of discourse that is recorded through this flickering medium. If universities were to maximize the affordances of the web, teachers and learners will have to be eloquent in this new technology just as we had become conversant in the technology of writing and print. Teachers and learners will have to go beyond the linear nature of traditional technologies and understand how to think non-linear as well.

Finally, it is also imperative to explore ways to incorporate in the digital environment the universitas ethos that have sustained universities for ages—excellence, academic freedom, humanism, intellectual pluralism, and service to society. MOOCs have helped revolutionize teaching and learning by making lifelong learning opportunities more accessible to the ordinary citizen.

In the formal education sector, we have yet to maximize the benefits of social media in our classes. At UPOU, aside from using our virtual platform, faculty members have experimented on the use of Facebook, Twitter, Vimeo, YouTube, and other social media to facilitate interactions among learners and women in the communities. There is still some work to do to make social networking a potent means for meaningful learning. It works because it makes use of the connectivity that is inherent in social media to connect a wide network of learners and experts.

As part of our initiatives to provide a platform for discussing these issues, we organized the 1st International Conference in Open and Distance eLearning (ICODeL) in 2012. We invite you to be part of our continuing conversations by attending the next ICODeL slated on 18-20 June 2014 at the Crowne Plaza Galleria Manila.

We have become eloquent in the use of ICT in our everyday lives. Our students are digital natives. Let our scholars, faculty, and other teachers and learners bring these into the education landscape and make our classrooms—whether they are physical or virtual—be enhanced by ICT into richer and more vibrant teaching and learning environments. It is time for scholars and researchers to claim our virtual academic spaces, engage in cultural dialogue, and be partners with our learners, communities of practice and co-teachers, co-researchers to become co-creators of academic texts. Let us maximize the affordances of our digitized world.

Thank you very much for listening to our narratives in teaching, learning, and research in open and distance e-learning.



## Enhancing Basic Education Through Mobile Technologies

27 February 2014

The UP Open University (UPOU) is pleased to be part of this "Policy Forum on Teaching and Learning with Tablet Computers." Today's gathering of project implementers involving tablet computer integration to teaching will be marked in the history of the use of modern information and communication technology (ICT) in education.

UPOU's involvement in one of the projects to be presented today, particularly the research that looked into the teaching and learning strategies involving tablet computers, stems from the following advocacies and mandates—all of them interrelated and are some of the defining features of what UPOU is.

First, let me tell you about UPOU as a research university and its mandate to be at the forefront in the use of modern technologies for education.

Tablet computer has become affordable and accessible. With its many affordances, particularly it being handy, it started to gain prominence in the teaching-learning environment. This is why we now see many initiatives using tablets in various ways, some of which are represented in today's policy forum.

But what is the most effective way of using this device? Effective in the sense that it will create the greatest impact in terms of learning and achieving learning goals? How can it facilitate the teacher's teaching? What are the other concerns associated with the integration of tablet computers to the teaching-learning environment?

These are just some of the questions that UPOU had when we decided to embark in this tablet computer research with funding from the Australian Government. As an academic institution, our position and recommendation on how to best use tablets for teaching and learning should be based on empirical data or backed by scientifically gathered data.

UPOU, on its own, tried to enable learning through tablet computers and other mobile devices by digitizing our course materials and making them available online so that our students can access them wherever they are. The learning context of our students is such that they should be able to access the materials relevant to their studies, connect with their fellow learners and professors, and substantiate their contextualization of learning not just through text, but also through the use of other media like voice, video, and photographs. Mobile devices like tablet computers enable our learners to do these things.

UPOU is also pushing for ubiquity in learning. It is the "anywhere, anytime, anyone, any gadget, and any connectivity" learning, which, to us, is the true picture of democratized education. Learning should not be divorced from the everyday realities. Learning should happen as an outcome of contextualization, reflection, and sharing. In the same manner that learning should not be confined within the four walls of the classroom, it should also not be confined to tethered equipment like

the desktop personal computer (PC), and only the mobile devices like the tablet computers can realize that.

In line with the university's support to this advocacy for ubiquitous learning, UPOU offers courses on mobile learning under its Master of Distance Education (MDE) program. In this course, teachers and students socially construct knowledge, specifically the design of learning, to maximize the affordances of mobile devices and to be relevant to the context and needs of present generation learners and lifelong learners.

Parallel to this accessibility and affordability of the device is the accessibility and affordability of educational materials and courses relevant to the 21st century skill requirements. The year 2012 was dubbed as the year of Massive Open Online Courses (MOOCs). Since then, especially in 2013, we have come across and, in some cases, even participated in or signed up for one or several courses of this nature. Since the inception of MOOCs and MOOC-like courses, these open online courses have evolved into various configurations and now there are even talks of crediting MOOCs toward a degree.

UPOU, on its own, has offered it's very first MOOC in collaboration with SMART Communications, Inc.—the development of mobile apps using the android platform. Just yesterday, we held our "MOOCathon," which also signals the series of activities related to MOOCs. Other courses (e.g., technopreneurship) to be offered as MOOCs are also in the pipeline. We are hoping that access to these free and open courses will be facilitated by the mobile devices.

These developments at the hardware and courseware fronts brought forward another paradigm shift in teaching and learning—that is, the sharing of the responsibilities for learning with the learner themselves. The design of learning takes into consideration the mobility of the learners and the mobile devices. Thus, by enabling the learners through the mobile device like tablet computer, learners are given the autonomy in learning. The varied resources that are available in the World Wide Web can enrich the learning environment with both the teachers and learners accessing them. In the process, we are also teaching our students how to learn, which is a very important pillar, so that individuals can stay relevant amid the changing times.

As I mentioned, we are now in the era of openness in education, but we should not stop at just being consumers or users of these open educational resources or OER. We should also be creators of these resources, especially those that showcase our indigenous knowledge, which we can share with the rest of the world.

It is in this light that we would like to invite everyone to the 2nd International Conference on Open and Distance eLearning to be held on 18-20 June 2014 at Crowne Plaza Galleria Manila. The education landscape is changing with these various developments. We should be able to not just adapt to these changes, but influence it as well in the same manner that we are influencing the use of tablet computers in education through this policy forum today.

We thank the Australian Government, which facilitated our research on tablet computers for education. We thank the participants of this forum for saying yes to our invitation.

Let's all enjoy the conversation.

Thank you and good day!

## Openness, Communication, Collaboration, and Scalability: Some Thoughts on Mainstreaming Science and Technology in Higher Education in the Digital Era

19 March 2014

Briefly I would like to share with you what is happening in higher education in the world because of information and communication technology (ICT), which is a direct application of science and technology (S&T) in higher education. Information technology (IT) ushered in a whole new culture of teaching and learning and of sharing resources. I would like to talk about what we do at UP Open University (UPOU) as we harness the advantages of these technologies, and decided to look at e-learning as a means to enrich the learning experience of our students. And perhaps we can situate ourselves in all this. More importantly, I would like to zero in on how we can possibly do mainstreaming of S&T in higher education in our country in this digital era.

**Global Trends in ICT for S&T Applied in Higher Education**

The arrival of the digital era and recent developments in the global economy increased the movement not only of products, but also of people and, more especially so, of ideas. The global economy has offered vast opportunities and challenges to higher education institutions (HEIs) worldwide. In particular, ICT has also given rise to knowledge-based industries and jobs that were nonexistent several years ago. Compared to our generation, today's graduates are expected to change careers several times in their work life. The rise of the so-called networked society will further increase the mobility of professionals and require people to regularly acquire knowledge and skills in dynamic environments.

The residential universities and colleges of the world are moving into quasi-distance education, blended, flexible, and learner-centered. The residential mode, which is purely face-to-face, brick and mortar, classroom interaction, is moving towards exploring the affordances of the limitless web.

As people and organizations expand their exposure to international markets and environments, more and more learners will require transnational education that goes beyond traditional modes of learning. The ubiquity of ICT has merged media institutions, educational institutions, and communities of practice into a new paradigm of building global teaching and learning communities, changing how new knowledge happens. Virtual communities are erasing old boundaries and borders. This has changed the way we think and how we try to solve our problems and challenges.

When ICT was a non-concept, we moved our ideas en masse—our concepts, constructs narratives, experiments and researches—making new knowledge happen through the technologies of writing and printing hard copies distributed

to biblioteques and libraries of the world. The education system is the most voracious consumer and producer of the hard print text. With a system of intellectual property rights in place, this has been perpetuated and basically remained unchallenged for generations. All world education institution ratings and accreditation systems are founded on this system. Today, in the digital era, we see the migration of print into hypertext, visual texts as hypermedia, and audio and moving images as hyper-multimedia or rich media. The new systems of repositories of digitized academic materials have affected traditional biblioteques and libraries, leading to the closing of publishing companies that produce books distributed physically. Some of them have moved on to reinventing their distribution systems, including the services they provide to scholars.

In a digitized world, a new culture of sharing and giving of greater access to resources is happening. Traditional universities led by some of the Ivy League institutions have shared their materials for free. The likes of Massachusetts Institute of Technology (MIT), Harvard, Stanford, Berkley, Princeton, and many more have led the leap to opening up their curricula, syllabi, and other educational materials for the public to access.

Search engines have been designed to make access to online repositories of such materials within the reach of learners all over the world. Examples of these are e-journals and search engines like Google Scholar, RefSeek, and Academic Materials, and many others.

The new mode of being able to move academic texts worldwide with so much rigor are in the form of Massive Open Online Courses (MOOCs), which are web-based courses that are open to unlimited number of students, usually by the thousands. MOOCs are delivered through interactive web-based technologies. Learning materials are often packaged in multimedia formats. A MOOC has an interactive dimension to it because it has grounded itself into a connectivist and constructivist pedagogy of teaching and learning with the faculty presence in its instructional design. Online learning activities like quizzes and discussion forums are usually incorporated. Peer evaluation is usually used but in some cases, evaluation and measurements are included with faculty and tutor presence.

Most MOOCs are in the format of rich media, that is, videos. Some traditional and open and distance learning (ODL) universities and profit and non-profit institutions have designed their own platforms offering courses or subjects developed by different universities. Examples of these are Coursera, Udacity, and edX created by MIT, Harvard and Berkley as well as Open Learn and Future Learn of the UK Open University, to name a few. At this time, their courses are basically offered for free. Some have built-in assessment or evaluation for a minimal fee. Some give out certificates of completion, while others don't. Some formally credit the courses taken as MOOC towards formal programs, while others don't.

For some statistics, in 2000, there were 360,985,492 Internet users and in 2012, there were 2,405,518,376. Internet usage shot up with 566.4 percent increase in 12 years. Some predict that this same rate of increase will happen in only six years. As of now, 47 percent of Internet users are in Asia. The moment your institution is online, you are likewise accessible to all those who have smartphones so then you are mobile. Over 6.8 billion mobile phones are used in the world that has a population of 7,012,000,000. This means that 87 percent use cellphones and a great percentage are concentrated in Asia. HEIs in Asia think that they have a new role to play as seen in the Asian Association of Open Universities (AAOU) website: "Educating the World through Asia." UPOU is a member of this association. There are about 50 mega-universities in the world (with 100,000-3.5 million students per university), 17 of which are in Asia. As there are six mega-universities in India, there is a saying that there is "one PhD in every square meter in India" but of course, I think that is a myth.

This has likewise led to a new culture of sharing together with the proclamation by the United Nations Education, Scientific and Cultural Organization (UNESCO) that information, education, research, and knowledge should be free. We also see the rise of a new culture of sharing among higher education institutions with open software, open educational resources (OER) and the Creative Commons, Academic Commons, and many more free of charge to the public. These licenses allow creators to communicate which rights they reserve and which rights they waive for the benefit of recipients or other creators. Hence, copyright and copyleft are coexisting systems.

We see teaching and learning at all levels. In the work place, our industries do their own eLearning training. We see institutions with e-learning platforms offering different types of courses directly to the public. On television, we view a stream of documentaries, exposés, instructional shows, discussions on public issues. At all levels, new knowledge, teaching, and learning transpire. More and more teaching and learning happen beyond universities and colleges. Today, industries are also turning to the higher education sector for professional graduate and continuing education. These learners will prefer to study part-time and acquire the skills necessary to advance themselves in their careers. Knowing these global trends, we may want to see possible opportunities in these technological changes and Web 2.0 to claim digital spaces for our Filipino scientists, researchers, and scholars.

Allow me to zero in on the national scene at this point. We are all aware of the important role that S&T plays in the development of a country, yet we have always bemoaned the lack of S&T culture in our society. We complain about the low ranking of the Philippines in scientific innovation and the low scores of Filipino students in international science and math examinations. As we expect our universities to conduct more R&D, we need to strengthen support systems to enable our academics to do more research.

How do we create an environment where S&T culture can flourish? How can we acculturate our learners and teachers to the scientific way of thinking? How can we support our academics to do more research and publications? How can we make S&T more relevant and useful to the public?

Just like many of us here, I believe that for S&T in the higher education sector to flourish, it needs to be supported by scholarships for PhD studies for our faculty members; R&D grants; financial incentives for international publications, awards, and inventions; support mechanisms for technology commercialization; and investments in R&D facilities in universities to support university-industry research collaboration. We have been trying to do this for quite some time.

All these have costs. In the past, universities in the Philippines relied on the generous support of the Commission on Higher Education (CHED) and Department of Science and Technology (DOST) for much of these. Not a few universities have also partnered with foreign institutions to fund their R&D. Despite our efforts, I understand that there is still a lot to do.

In 2010, 10 million out of the 94,013,000 Filipinos are of the ages of 15-19 and about five million are basic education graduates—a block of potential students in higher education. In School Year 2011-2012, about 3,033,000 were enrolled in bachelor programs and 498,418 graduated from 2,299 HEIs. The top five areas of study were business administration and related courses, education and teacher training, engineering and technology, information technology and related disciplines and medical and allied studies.

An ongoing initial study on graduate education in the country shows staggeringly minute numbers of enrollment and graduation. At this point, I cannot share the exact numbers because the research is still ongoing, but I can probably just share areas or fields in which we produce graduates. In School Year 2011-2012, the top five areas that had the most graduates were in education, nursing, public administration, business management and information technology. In the doctoral programs, the graduates were mostly in education, philosophy, public administration and business administration. May I just point out the lack of scientific culture among Filipinos in the pursuit of professional graduate and continuing education in general. Graduate education has always been seen as the seat of research. The dearth of students in graduate education in the field of science bespeaks of the state of research in S&T.

In a country with meager resources and a world with decreasing disposable funds for grants, how do we elevate and sustain these efforts? I believe that the scientists and economists who are here have their own take on this. As a cultural and communication scholar and visual artist, let me share my perspective on these issues.

The sustainability of S&T promotion efforts ultimately lies in a Filipino public that supports S&T and R&D. Our politicians can only put resources in agenda that either deliver votes from the masses or support from key sectors in society. Hence, we need to mainstream S&T in the people's consciousness. We have to work on creating the scientific culture.

When we think of promoting a science culture, some people tend to equate it with the usual media blitz. While this is very much part of it, I think there are other ways by which we in the higher education sector can do to achieve this. I think that S&T can be promoted in higher education in three ways. First, we need to inculcate the scientific culture in our learners and teachers. Second, there is a need to communicate scientific knowledge to the general public. Third, we can prioritize sectors wherein R&D in HEIs can create an impact.

As an educator, I believe that scientific culture should not only apply to science students. Scientific culture should be imbibed by all learners because it results in competencies that everyone can apply in life, that is, the ability to think critically, creatively, and rationally. Not only does it enhance the problem-solving and decision-making skills of learners it also promotes values that contribute to a healthy society—transparency, rationality, and openness to new ideas.

As we know, scientific culture is exemplified when people think critically for themselves. It abhors dogma and encourages scrutiny of ideas, questioning and analyzing them to make sure that claims are supported by evidence.

Scientific culture promotes honesty and authentic disclosure. It is about uncovering explanation of the natural world and encourages people to be honest, unpretentious, truthful, and real about how they arrived at these explanations.

Scientific culture encourages ethical behavior. It promotes new discoveries as well as guidelines for ethical behavior, especially in terms of the potential impacts of their research outputs.

As faculty of UPOU, let me share with you how we nurture this culture among our learners.

UPOU was established in 1995 to provide quality education to more people. We offer mostly graduate programs through open and distance e-learning or ODeL.

ODeL is more of a worldview through the convergence and integration of the concepts of open learning grounded in the philosophy of openness and inclusion, distance education, and its concept of learner-centeredness and flexibility, and e-learning with its connectivity and constructivist framework. That is our contribution as an institution to the ODL community and to the higher education environment in general.

Interaction in Open and Distance eLearning courses takes place in four levels: Learner-content interaction, learner-learner interaction, learner-teacher interaction and learner-teacher-community of practice interaction. At UPOU, learners study at their own pace and place using e-books, e-journals, and specially designed hypertext, hypermedia, and multimedia materials, and they interact with their teachers and co-learners in MyPortal, a Moodle-powered learning management system or virtual classroom. Social media are used on top of the traditional methodologies for research in the digital environment. Likewise, ICT and multimedia as research are maximized.

Just like their counterparts in the conventional classrooms, UPOU students are required to submit assignments, research reports, take examinations, and participate in online discussion forums. In all these assessments, we normally require our students to apply their theoretical lessons in their own personal and professional contexts and in solving realistic problems. In discussion forums, they are also encouraged to pose questions to each other and critique each other's position.

The good thing about this mode of learning is that students' outputs can easily be made open to the scrutiny not only of the teacher, but also of the classmates. When students are required to write down their reflections on their learning in the form of blogs, students can actually read and comment on each other's ideas. When they post their responses to the teacher's question in online discussions, they need to write down their ideas and post these on the discussion board for everybody to read, analyze, and evaluate. To be credible, they must ensure that their postings apply the concepts covered in the modules, provide evidence for their position, and even cite other literature if necessary. Not only does this format allow the other learners to scrutinize the ideas of their classmates in a much more detailed manner, it also enables them to respond to those questions and defend their stand on issues in more organized and transparent way. In addition, the

online discussions also require a certain level of decorum, which fosters ethical behavior.

In online learning, the teacher becomes more of a facilitator of learning; the teacher is no longer the sole source of knowledge in class. In addition to video lectures and written modules, our students are also required to read scientific papers like journal articles, which exposes them not only to the content of the subject matter, but also the empirical process by which the content has been arrived at. In an environment where the students' power relative to that of the teacher is increased, peer-to-peer learning and evaluation becomes more possible. This enables the learners to think for themselves and not accept everything at face value. In this way, students are given the opportunity to imbibe the scientific cultural values of rationality, critical thinking, and openness to scrutiny, transparency, and ethical behavior through the learning experiences they undergo.

The learning environment I just shared with you has shown that teaching scientific culture is not just about content. I cannot overemphasize the importance of accurately teaching science theories and concepts. But for the scientific way of thinking to be internalized by students, it has to permeate all their subject areas. A learner-centered approach that promotes critical thinking, problem solving, and creation should therefore be the norm rather than the exception. Research should be undertaken not only in science classes, but also in all disciplines. Students should be able to see research not just as a mere academic exercise but as an important tool for problem-solving and decision-making.

Secondly, Filipinos need to see the relevance of S&T to their everyday lives if they are to appreciate and support it. Unfortunately, the mainstream media has not given much attention to S&T. When Manny Pacquiao wins or even loses in a boxing bout in Las Vegas, or a Filipino wins a place in an international beauty pageant, the whole country is agog with the media frenzy that surround these events.

When a group of Filipino school kids wins medals at the Math Olympiad, they are lucky if they are even mentioned in the morning news or written about in the inside pages of a newspaper.

This is how society views science. In a world driven mad by the glitter of celebrities, S&T rarely receives the attention it deserves. This is also true for the rest of the world, but more so in the Philippines. In a country that still struggles to promote a scientific culture, such imbalance becomes more crucial.

Why do we need to give attention to scientists and their work?

I believe that scientists and researchers need more recognition not only because they deserve it, but also because our society needs it. We need to recognize people who have invested their time, energy, and intellect to come up with technologies that improve our lives. Furthermore, we need to make science as an attractive career in the eyes of the youth. We need more people who will sustain the work of the earlier generation of scientists as well as break new grounds. Given the length of time to educate and train a scientist, the human resource pool from which we can recruit promising scientists should be larger.

How do we communicate S&T's relevance to the public then? I think this is where communicators and artists in universities come in. Humans are basically story-telling creatures. We make sense of realities around us through the stories we tell each other. Have you seen an episode on Animal Planet? Why are we attracted to two-hour long documentary on a set of animals in the wild? It is because they are told as narratives. Notice how the documentarists depict the animals as characters that viewers can relate to—mother, offspring, clan member. Tension is also created in the story by presenting the animals in some sort of danger, if not conflict such as predator vs. prey, animal vs. nature or alpha animal vs. other males in the brood. Musical score is also added to push those emotional buttons. An example of a successful partnership between an academic institution and a media institution to popularize science and technology is that of BBC and the UK Open University. In their case, we see great strides towards mainstreaming S&T in society.

I understand that some scientists believe that popularization dilutes, if not misrepresents, scientific knowledge and work. I am also aware of instances when mainstream media has committed errors in scientific reporting to the point of

causing unnecessary alarm among the public. Being a communication scholar and a visual artist myself, I believe that there is a way to combine the two. And it is the communication experts in our universities that are in the best position to lead the way. Being in the academe, communication teachers are already exposed to the scientific culture. The scientists in universities are not some anonymous person they have to write about, they are colleagues they personally know. As such, they have more access to the S&T world and can better represent them and their work but still do so in compelling ways that artists and communicators can.

While we must lobby for mainstream media to disseminate information on local S&T initiatives, we can also look into alternative media to target non-traditional audiences. For instance, during my term as president of the Los Baños Science Community Foundation, Inc., we have collaborated with all the member R&D agencies to develop and produce a TV program called "Maki-Makiling." It is a one-hour TV magazine show that features S&T issues, technologies developed by the member-agencies as well as trivia on tourist spots and other curiosities in Los Baños. We have partnered with a local cable company to air the programs in several towns in Laguna. In addition, we shall also make this program available through the UPOU Networks, a web-based TV station managed by UPOU.

The so-called new media has made ordinary people into reporters, writers, broadcasters, and critics. It has democratized communication platforms and enabled the public to become producers of information and knowledge instead of just mere consumers. We in the university must be able to tap this web-based medium to disseminate our S&T initiatives. But to attract the people's attention, we need to do it in a language understood by the young people or the so-called digital natives—visual, conversational, dynamic, personal, brief, and fun.

At UPOU, we have also tapped this medium not only to communicate science, but also to teach it at a larger scale. Recently, we have launched the first MOOCs on mobile apps in partnership with Smart Communications, Inc. The courses are free and accessible to anyone who is interested. Through this course, we are able to teach technology design and development to our young people, which normally would not be able to learn this due to a number of limitations—time, money, or lack of education prerequisites.

Lastly, we have to make R&D work in universities more relevant to the lives of the Filipino people. I believe that to do this, universities must be able to find their respective niches relative to their strengths and the needs of their respective communities. We applaud the universities that have established track records in agricultural and rural development R&D. Their efforts have already benefitted our farmers and rural communities. Having said this, we also need to expand these efforts in other universities, disciplines, and sectors. Urban-based HEIs, for instance, can focus on researching on problems faced by the industrial and service sectors. For instance, the country has been known as the Business Processing Outsourcing capital in the world. It is a platform-based industry and yet we have not maximized R&D in this area.

Corollary to increasing the impact of R&D in HEIs is the need for greater trans-disciplinarity. While we have made some strides in the inclusion of socioeconomics in agricultural R&D, there are still a lot of opportunities in integrating communication, humanities, and art perspectives in R&D. The Philippines is known for its design talent, particularly in the international furniture and housewares sectors. The local furniture and handicraft industry is mainly composed of small and medium-sized enterprises, which do not have many resources for R&D. This industry is constantly looking for new organic materials to keep its competitive edge. Our R&D must be able to support the design visions of our designers, artists, and crafts people. For inspiration, we can turn to the Bauhaus movement which adopted this approach in the early part of the last century.

The Bauhaus movement was established in 1919 in Germany by Walter Gropius who had a vision of bridging art and industry by combining traditional arts and crafts. The movement asserted that all works, including art, architecture, engineering into the concept of aesthetics in geometric design and the concept of function into one, could be brought together and mass-produced. It also espoused the value of being true to the material, for example,

presenting steel in its honest and natural state. It also favored the adage "form follows function," stripping designs to their essential form. All these resulted in designs that are streamlined, functional, modern, and mass-produced. It influenced the design and mass production of products, ranging form furniture to can openers.

The strength of the Bauhaus lies in the convergence of art, industry, and technology. Let's take the case of the monobloc chair. This piece of modern furniture would not have worked without its plastic injection technology, its streamlined structure, and ergonomic design. In the same way, we cannot advance the plant-based materials, which have been the trademark of our local furniture and handicraft manufacturers, without the collaboration of our artists, our industrial designers, craftspeople, and scientists. To address the limitations of the material, science has to come in. To make the products marketable to the consumer, the designer and artists have to come up with contemporary designs that fit with the consumers' modern lifestyle and aspirations. To make all these possible, we need to involve our crafts people who have a rich background in the use of the material and train them in modern applications of the said material. Where else can we find the largest concentration of scientists, artists, and technologies but in the universities?

Collaboration provides universities the opportunity to test their ideas in an actuality. Industry, on the other hand, can gain access to R&D expertise and facilities and help researchers scale up prototypes for mass production and marketing. A collaboration involving these experts can be initiated by the universities with industries through the help of relevant government agencies like the Department of Trade and Industry, DOST, and CHED.

Here are some possible concepts, more specifically on S&T Graduate and Professional Continuing Education where new knowledge transpire, which we may want to adopt and make accessible to all Philippine HEIs:

1. Developing S&T MODeLs (Philippine version of MOOCs) in an LMS + CMC +LCMS Philippine Virtual Platform.

2. Creating S&T evaluation, assessment and measurement systems. Statisticians, IT programmers, and instructional designers will be engaged in big data assessment (this will be the evaluation portion for MODeLs). It is time to concern ourselves with scalability of quality higher education in this digital era. It is of import that we produce a critical mass of graduate education students who consider themselves as co-creators of academic S&T texts as they view their courses as research courses.

3. Establishing an accreditation system for professional continuing education. Industries can look at adopting systematic portfolio-based assessment ideal for the certification of completion for MODeLs.

4. Local and national government providing connectivity and assigning S&T learning center coordinators lodged in telecenters or e-Learningvilles who can be trained on how to access MOOCs, and MODeLs and OER processed by e-Librarians and e-Curators. There are existing telecenters all over the country.

5. Creating the S&T Knowledge Hubs, which are not buildings but rather networks by S&T disciplines or priority areas among the HEIs and Research Institutes). We need to identify the niches of our state universities and colleges and Philippine HEIs, research centers, and centers of excellence, create partnerships, and, at the same time, engage leading individual scientist researchers to develop OER and their repositories for sharing among themselves.

6. S&T Integrative Centers. They are likened into schools (e.g., Bauhaus), but curricula of the integrative centers (e.g., Wood, Fabrics or Rice Integrative Center) are developed by artists, crafts people, industrial designers, engineers, scientists, social scientists, and wherein art and science are one.

In this digital era, with the developments in the global economy and with the capacity of universities worldwide to respond to this environment. More than ever, we need to produce graduates who can think critically for themselves, seek information for problem solving, and work in cross-cultural environments. Our industries need to constantly innovate to survive the growing

competition in the world market. The universities have a role to play in this environment. As I mentioned, we should be able to harness the vast talent we have in our universities to apply their expertise in relevant R&D. To do so, we must also be able to work together to mainstream the S&T culture and agenda both in and outside the academe. To do so, we in the higher education sector will need to re-examine our approaches in the light of the demands of the global era and the digital age.

## Open and Distance e-Learning (ODeL) in Master of ASEAN Studies

29 April 2014

To our distinguished officials, faculty course writers and developers, and facilitators of this writeshop for Master of ASEAN Studies, this is indeed an important and historical course development activity for all of us. I hope we will have more of these collaborations that are made possible by maximizing the open and distance e-learning (ODeL) framework in this digital age.

The increasing globalization and the rise of the so-called networked society have increased the mobility of professionals and require people to regularly acquire knowledge and skills in dynamic environments. To meet these needs, universities and colleges of the world are moving into quasi-distance education that is blended, flexible, and learner-centered. The residential mode, which is purely face-to-face and classroom interaction, is moving toward exploring the affordances of the limitless web.

The second look that distance education is getting now would not have happened if it were not for the information and communication technology (ICT) revolution. ICTs have merged media institutions, educational institutions, and communities of practice into a new paradigm of teaching and learning communities, changing how new knowledge happens. Virtual communities are erasing old boundaries and borders. We see the migration of print into hypertext, visual texts as hypermedia, and audio and moving images as hyper-multimedia or rich media. The new systems of repositories of digitized academic materials have affected traditional biblioteques and libraries, leading to the closing of publishing companies that produce books distributed physically. Some of them have moved on to reinventing their distribution systems, including the services they provide to scholars. All these have changed the way we think and how we try to solve our problems and challenges.

Six years ago, five open universities—Universitas Terbuka in Indonesia, Sukothai Thammathirat Open University in Thailand, Open University of Malaysia, Hanoi Open University, and the UP Open University (UPOU)—conceptualized the offering of the Graduate Certificate and Master of ASEAN Studies. UPOU shall be the first to offer the Master of Asean Studies so it is most important that we write, develop, and produce the rest of the courses of our program. The start of the offering of our courses is in August of this year. Various universities had reacted to these changes in both similar and different ways. In the case of the Master of ASEAN Studies, all the universities involved agreed that we may offer our courses fully online. However, some will still offer their courses in print and this may pose some challenges in offering it as a transnational program. The governance of the program was left to the decision of each university.

At UPOU, we have long decided to maximize the affordances provided by the web. We started to adopt online student support in 2001 and went fully online in 2007 with our courses as resource

based learning packages and made online teaching as the main approach to our instruction. As an open university that is a part of a national university system, UPOU's teaching and learning approaches have been shaped by its immediate context and developments in the fields of open learning, distance education, and e-learning. These ideas were approached and encapsulated in a worldview that we called ODeL.

ODeL draws from the philosophy of openness, inclusion, resource sharing, access, and equity of open learning, learner-centeredness, flexibility, and active learning of distance education as well as interactivity, ubiquity, connectivity, and constructivist view of e-learning. These affordances and features are infused with values that underpin the "universitas"—excellence, academic freedom, humanism, intellectual pluralism, democracy, and service to society. These ethos create the spirit of the university that we all recognize.

Together, all these elements are embedded and facilitated by networked ICTs and make up what we refer to as ODeL. The inter-weaving of these components can bring about social transformation by producing learners who have the ability to seek new information from different sources, translate this information into applicable knowledge, and communicate this knowledge in various forms and situations. They should be able to work in different cultural contexts as well. ODeL, with its affordances, can help us address the challenges of education in the 21st century.

The ODeL framework can address the need to reach our diverse learners in different locations nationally and internationally, thus accommodating inclusivity, connectivity, and ubiquity as it can be accessed from everywhere at any time. This framework enhances the teaching and learning experience of both teachers and learners, strengthening innovativeness, creativity, and critical thinking. It nurtures independent thinkers by interacting, analyzing, solving problems, creating, co-creating, and documenting academic texts as hypertext, hypermedia, and rich media through instructions and research as they maneuver through the different communities of practice. Given this digital platform, our researchers, scholars, and teachers learn to move their ideas, narratives, experiments, and researches with the end view of benefiting people in our country and the rest of the world, ultimately contributing to social transformation.

It is not only distance education institutions that are taking a second look at technologies in education. The ICT revolution has made knowledge resources much easier to textualize, visualize, package, and distribute. Inspired by the principle that education should be made available to all, universities of all sorts have began to assess their own practices in making knowledge resources, if not education, more available to more people. In a digitized world, a new culture of sharing and giving and of greater access to resources began to flourish. These changes have given rise to the popularity of open educational resources (OER). Traditional universities led by some of the Ivy League institutions have shared their materials for free. The likes of Massachusetts Institute of Technology (MIT), Harvard, Stanford, Berkeley, Princeton, and many more have led the leap to opening up their curricula, syllabi, and other educational materials for the public to access.

While sharing educational resources has democratized access to information, knowledge creation is not just a matter of information dissemination. Academics were thus faced with the question of how OER, which are digital in nature, can be tapped to make learning possible and promote inclusivity, connectivity, interactivity, ubiquity, and scalability. In other words, maximizing the potential of OER meant situating them in a teaching and learning environment—a challenge which is now being realized in the so-called Massive Open Online Courses (MOOCs).

The new mode of being able to move academic texts worldwide with so much rigor are in the form of MOOCs. These are web-based courses that are open to unlimited number of students, usually in the thousands. MOOCs are delivered through interactive web-based technologies. Learning materials are often packaged in multimedia formats. A MOOC has an interactive dimension to it because it has grounded itself into a connectivist and constructivist pedagogy of teaching and learning with the faculty presence in its instructional design. Online learning activities like quizzes and discussion forums are usually incorporated. Most MOOCs are in the format of rich media, that is, videos. Some traditional and open and distance learning (ODL) universities as well as

profit and non-profit institutions have designed their own platforms offering courses or subjects developed by different universities.

We now see teaching and learning at all levels. In the work place, e-learning platforms offer different types of courses directly to the public. On television, we view a stream of documentaries, exposés, instructional shows, and discussions on public issues so that new knowledge, teaching, and learning transpire at all levels. More and more teaching and learning happen beyond universities and colleges. Beyond higher education institutions (HEIs) of countries, beyond national borders. The moment we are online, we are transnational.

Today, industries and communities of practice are turning to the higher education sector for massive graduate and professional continuing education that are more specific to their respective fields. These learners prefer to study part-time and acquire the knowledge necessary to advance themselves in their careers. To a certain extent, the stage is set for the ODeL framework to work and be maximized. I think we need to recognize the changing learning styles of our students. Each year, more and more digital natives are joining the higher educational sector. Even digital migrants like us are constantly being put in a position where we have to adapt to a new technology. Let me cite some data.

In 2000, there were 360,985,492 Internet users, which ballooned to 2,405,518,376 by 2012. That is a 566.4 percent increase in 12 years. Some predict that this same rate of increase will happen in only six years. As of now, 47 percent of Internet users are in Asia. According to the March 2014 of "Tech in Asia," the Philippines is the fastest growing Internet population in the world, with 531 percent growth in the past five years. The moment your institution is online, you are accessible to all those who have smartphones, so then you are mobile. Over 6.8 billion mobile phones are used in the world, which now has a population of 7,012,000,000. This means that 87 percent use cellphones and a great percentage is concentrated in Asia. These are the people we need to help educate and we have to be prepared to adapt to their ways of doing things, including learning styles.

Despite the preponderance of educational resources on the Internet and the growing number of privately run e-learning providers, universities in general and open universities, in particular, will always play a central role in the accreditation of student learning for transnational education. Universities can only continue to perform this accreditation role if their ways of assessing their students' learning remain appropriate and credible in the eyes of our stakeholders.

It is quite appropriate that today we are talking about how we will design our courses, write the content, identify and produce multimedia applications, and measure and assess teaching and learning in the context of scalability. As we involve ourselves with online teaching and learning and as our classes become larger, we have to involve ourselves in the design of online teaching and learning assessment in the digital format. More so now that we are acquainted with what is happening in the international scene of a new culture of teaching and learning and the ODeL framework of UPOU.

I would like to share my thoughts on this. First, I would like to briefly share with you how I teach my courses. For me, ODeL is more of a worldview, a construction of how open learning, distance education, and e-learning can converge and diverge, co-create each other, and enacted in the context of the universitas. I see the Master in ASEAN Studies as a knowledge hub, a venue where our teachers and learners bring in their insight, making use of their voices, interpretations, narratives, data, numerous methodologies, and various frameworks of study grounded on their own realities and cultures. All these contribute to thickening the literature of ASEAN Studies as a discipline. We will be in the best position to make use of a connected, interactive, and ubiquitous teaching and learning ASEAN community of scholars and likewise reach the many other teaching and learning communities of the world.

To be more specific, allow me to share with you how I apply this framework in my classes wherein I try to maximize the web in partnership with my students to enhance our teaching and learning experiences. I teach several courses online. I consider my classes as research classes and I consider my students as co-creators of our academic texts. Teaching at UPOU allows me to do so because it is a university that has chosen to conduct all its courses online. In my classes, we research, theorize, and engage in the discipline's praxis and thicken the discourse on the following:

Multimedia Production (Devcom 207), Multimedia Theories (MMS 102), Theories in Communication (Devcom 310), and Gender and Multimedia (MMS 111).

With UPOU choosing to deliver its courses one hundred percent online we see learning as being able to access course materials in hypertext, hypermedia, and hyper-multimedia or rich media from UPOU resources, repositories or libraries of the world, and multi-texts from communities of practice. These UPOU-produced videos are lodged in the UPOU Networks, a web-based repository of OER in rich media. In some cases, I also refer my students to videos on Youtube or Vimeo. There are likewise numerous academic articles from the community of practice and or academic journals on the web.

Interaction in online courses take place at four levels: learner-content interaction, learner-learner interaction, and learner-teacher interaction, and learner-community of practice interaction.

Through learner-content interaction, content in distance education is delivered to students through technology. In the courses I teach, I normally require my students to view video lectures as well as read online academic articles from the community of practice and journal articles available online.

For my classes on gender and multimedia production of OER in the UPOU Networks, for example, the learners view videos that capture original texts by resource persons who are the experts in the field. The texts were turned into multimedia materials and produced by the UPOU Multimedia Center. I also refer my students to videos on Youtube or Vimeo as well as UPOU productions in the UPOU Networks.

I give them relevant guide questions, which they can ponder on as they engage with the course materials. There are likewise clear guidelines for learner-learner interaction. As you can see, my students and I go beyond the use of our LMS which we call MyPortal. Aside from the online forums, chat, and the course guide and resources listings, guide questions are given in online forums which start discussion among the learners. The questions enable the students to expound on the concepts covered in the course materials and apply the concepts in their own contexts. Students are encouraged to post their ideas and react to each other's postings.

To promote learner-teacher interaction, I post my course guide along with all the requirements and the points of discussion. I make it a point to give immediate feedback on MyPortal, our learning management system. I require my students to produce documentaries and narratives for my production class and videos to document mainstreaming of gender awareness in their own communities for my gender class. I am amazed at the themes and narratives pursued by the students. Not only do they tell engaging personal stories and those of resource persons, many of them also speak of the wider socio-political-economic context in which these stories are situated. This is in line with the use of multimedia as research.  After submission, I provide numerical as well as descriptive assessment of the students' work.

For learner-community of practice interaction, aside from being immersed in their communities when they do their video research, I encourage my students to enter their works in the platforms Vimeo and YouTube, digital video exhibitions, festivals, and competitions, just like the one UPOU organizes every year for its students to elevate the discourse in public spaces. Despite these efforts, UPOU is aware that there are still some issues and challenges in ODeL that we must address as an academic community.

I believe that teaching and learning are responsibilities of the course writer, the instructional designer, media specialist, technology specialists, teacher, tutor, and learner all at the same time. Though these tasks are often done separately, it would be best if the course conceptualization, production, and development of applications are the main responsibility of the teacher. There is also concern on the design of learner participation and assessment, which form a major part of the process of teaching and learning where new knowledge happens.

We may wish to see our learners as possible agents of evaluation. Armed through the course of learning principles and theories along with their application (through hands-on practice during the course), they themselves can become evaluators, reviewers, preceptors, and assessors of their peers' outputs. They can be given the parameters as

guide by which they can intelligently evaluate co-learners' academic texts. With this exercise, they likewise become critics and potential teachers in the subject matter. This can be just a part of the assessment system. This can then help enrich the experiences of the teachers and tutors who are traditionally the sole perceivers of excellence in the work of learners. This innovation is also in line with maximizing the concept of teachers and learners as co-creators of academic texts.

We may also need to explore how to assess ICT's use of still and moving images and sounds on top of the written word as academic texts. There is a need to be conversant and eloquent in the use of different media in creating content as we engage with different literacies for teaching and learning in an ODeL framework. We must learn how to correctly read these various forms of academic texts. Aside from translating voiceovers or narrations to the language of instructions, we must also concern ourselves with the narratives, information, statements, research data, and evidence for problem-solving that hypermedia and rich media carry beyond the written and verbal texts and maximize what these combination of media powerfully convey. This then becomes a concern for assessment design as well.

We need to strike a balance between maximizing scalability of teaching and learning processes, and assessment in particular, while retaining the much-valued academic freedom and pursuit of academic excellence. This can be explored by looking at big data and analytics solutions as this is part of the ubiquity of ICT but without losing the core values that we all uphold in the university.

Finally, since ODeL is a framework for teaching and learning in the digital era, it can really go beyond universities and even beyond national higher education systems. Therefore, the use of ODeL will still be dependent on how a university perceives the ODeL vision and mission and how a nation sees the framework's use within its higher education system.

## Massive Open and Distance e-Learning (MODeL): UP Open University's Contribution to Massive Open Online Courses

18 November 2014

Thank you for asking me to speak about UP Open University's MOOCs experience.

Information communication technology (ICT) has ushered in an unprecedented environment for education. Popular eLearning entering formal education is born of ICT's qualities of connectivity, interactivity, ubiquity and a constructivist-participatory pedagogy of teaching and learning. We now live in an era of open education. More than ever, more and more people are embracing the idea that knowledge should be freely accessible. While openness has been with us for quite some time, the advent of massive open online courses or MOOCs has vastly contributed to the mainstreaming of the open education discourse.

Although there are still myriad of questions and concerns about the wisdom of developing and offering MOOCs, many academic institutions have found it to their advantage to offer their own version of MOOCs or MOOC-like courses. Two of the most cited reasons to try MOOCs are to "increase institution visibility" or market the institution, and "drive student recruitment" or increase enrollment.

The University of the Philippines Open University (UPOU) has always been an advocate of openness in education. The UPOU is one of the constituent universities of UP, the premier university in our country. Established in 1995 to further democratize access to higher quality education by offering degree and non-degree programs through distance education, UPOU now offers three undergraduate degrees, 22 postgraduate diploma and master's degree programs, and two doctoral programs.

We at UPOU believe that it is part of our mandate to improve higher education in our country through open and distance e-Learning. We have been teaching online since 2001 and went fully online in 2007. In coming up with our own version of MOOCs, Massive Open Distance e-Learning (MODeL) is a natural move towards wider reach for public service. Last year, UPOU expanded its reach by offering its first MOOC on android apps development in partnership with Smart Communications. This was followed by another MOOC on Technopreneurship. This year, we have also offered MOOCs on Fundamentals of Business Process Management and Business Communication in cooperation with the IT-Business Process Association of the Philippines and the Asian Development Bank. These two courses will be followed by MOOCs on Service Culture, Systems Thinking, and Advanced Business Process Management.

The MOOC model of delivering instructional content has provided the opportunity to push this advocacy further and make quality education accessible for Filipino learners all over the world. The connectivist and constructivist pedagogy of

teaching, learning and research in the digital age was integrated into its MOOC offerings. Teachers and learners are co-creators of academic texts which characterizes the UPOU online courses as actively contributing to the growth of the different disciplines.

In 2012, we have formally articulated Open and Distance e-Learning (ODeL)—the worldview that has guided UPOU's performance of its instruction, research, and public service functions. ODeL draws from the philosophies of open learning, the affordances of distance education, and the approaches of e-learning, while being supported by the values that underpin the universitas—academic excellence, academic freedom, humanism, intellectual pluralism, democracy, and service to society. This ethos with its guiding philosophy of learning and knowledge and push for online constructivist pedagogy embrace the notion that learners and teachers are co-creators of academic texts. The university tried to parlay these values as it designed and delivered its MOOCs. UPOU has termed its own brand of MOOCs as Massive Open and Distance eLearning or MODeL.

In developing its own MOOCs, UPOU came to face the many concerns and issues surrounding this form of instruction. The most pressing issues and challenges include the following:

1. Quality of education, which covers the issue of cheating and plagiarism and appropriate assessment mechanisms considering the massive enrollment.
2. Initial investment and sustainability model.
3. Appropriate learner support model or framework, and whether the university can provide this considering the massive course enrollment.
4. Recognition and accreditation by the industry and other academic institutions.

Added to these assorted issues and challenges that became major concerns in the Philippines setting are the global experiences and perspectives related to MOOCs. These include: (1) the perceived intellectual dominance resulting from the one-way transfer of educational materials from the rich nation states to the much poorer developing countries and (2) the widely reported low course completion rates of MOOC participants. Drawing upon more than 10 years of experience as a distance elearning institution, UPOU designed its MOOCs to address most if not all of these challenges in a holistic manner.

First, on the issue of Quality of Instruction in MOOCs, UPOU adopted the Quality Assurance (QA) for Open and Distance e-Learning (ODeL) framework that it had been already using for its regular distance elearning courses. The quality framework is a quality benchmark used in open and distance elearning. It consists of the following aspects institutional commitment, teaching compliment, support staff, IT infrastructure, design and production of learning and teaching materials evaluation, continuous research and monitoring, assessment of Teaching and learning, teaching–learning and research hub (process and environment). By adapting this framework, several other common concerns which challenge MOOCs have also been addressed.

The Teach component of the framework includes how teaching will be conducted in a MOOC, including the teaching-learning environment or the learning management system (LMS) that will be used for MOOCs. Through a process dubbed as MOOCathon, the university academics started the "unending conversation" on MOOCs to try to come up with mechanisms to address the Teach component. For instance, part of the MOOCathon is a design-thinking workshop to come up with the specifics of a desirable LMS for MOOCs.

Part of ensuring the quality of instruction lies in the design and development of the course materials. For our MOOCs, we always made sure that a UPOU faculty member and an industry expert work together in the development of the course materials to ensure content validity. To cater to different learning styles, we developed multimedia formats of learning content like video, podcasts, and texts. All the course materials developed for MOOCs were released as FREE Sharing. Other universities that wish to offer the same courses can also use said materials for teaching and learning. Whether or not they enroll in these MOOCs, other parties can access for free the videos produced for the courses through the UPOU Networks, which is our own platform for educational materials in rich media

Designing the LMS for UPOU's MOOCs was done through crowd sourcing and full use of open source courseware. In so doing, the first LMS to be tested for UPOU MOOCs was powered by Moodle (Modular Object-Oriented Dynamic Learning Environment) with various free and open plug-ins

like YouTube. The LMS also took into consideration the teaching and learning design such as allowing interaction between and among the teacher and learners not only to facilitate discussion, but also to motivate the learners and automate assessments to facilitate assessment for learning.

In designing the assessments, extra measures were taken to minimize cheating and plagiarism. Most of the assessments developed would require learners to engage in contextualized case analysis, and providing the answer within a given duration by video capture using the plug-in YouTube Anywhere. The students' video-recorded-responses to assessment questions are uploaded to YouTube for marking by the teacher or assigned marker.

Our experience has also shown that offering MOOCs in partnership with industry can address concerns on initial capital investment, sustainability, industry recognition of the Certificate of Accomplishment, and even quality of content. UPOU's foray into MOOCs was expedited by its partnerships with the industry. For these MOOCs, industry practitioners acted as subject matter experts in the development of the course materials and assessment tools, co-teaching, and marking the assessment. Their involvement is also intended to make the courses more aligned with the industry needs, which in turn, aids in drawing industry support for the accreditation of these courses.

In terms of assisting students, we were aware that the learners' extent of experience in distance elearning was diverse. In the initial MOOC offerings, learner support was provided during pre-course enrollment, while taking the course, and post course completion. The pre-course enrollment support consisted of detailed and multi-modal instructions about the course itself and specific technical requirements. Before the start of the courses, the learners were also asked to undergo a Distance Education Readiness module, in which they learned how to go about distance elearning and navigate the LMS.

In terms of crediting of courses, our MOOCs on business process management have been integrated into the tertiary education curriculum on information technology and management through a memorandum circular from the Commission on Higher Education (CHED) of the Philippines. Academic institutions offering these courses can have their students enrolled in UPOU MOOCs, get the Certificate of Accomplishment, and apply for the transfer of equivalent credits so that these courses can fulfill the partial requirements of their degree. MOOC completion and the associated learning, which is supposed to occur as a result of taking the course, is attested by the Certificate of Accomplishment, the branding for which implies passing the standard set by the university. This branding is designed to address the recognition and accreditation for MOOCs and to differentiate it from the usual Statement of Accomplishment usually given by MOOC providers.

Sustainability has always been an issue in MOOCs. As we know, these courses are free but there are costs associated with offering a MOOC like assessing students, hosting of LMS, and providing learner support. The sustainability model considered for UPOU MOOCs consists of certification for a fee to cover the cost of assessment, grants and industry support, and work credit for extension/community work for university personnel. The process by which UPOU planned, designed, and delivered its own MOOCs involved active search and evaluation of an appropriate model that could be adapted for its own MOOC. Referred to as MODeL, our MOOCs have been shaped by our own experience as an ODeL institution and the unique socio-economic and cultural contexts in which we, our learners and our university are embedded.

What lessons can we draw from our experience in MOOCs?

We have realized that open universities can extend their long and vast experience in open education in MOOCs. The principles and processes that determine quality in distance elearning can also be considered for MOOCs. ODL universities can look at MOOCs as part of their strategies to make education more accessible to more people.
We have also learned that partnerships with industry and other institutions can directly address concerns related to initial capital investment required, the recognition of certification, and the model selected for sustainability. Pooling of resources can enable various institutions to spread the risks and costs associated with developing MOOCs. As ODL institutions, we have developed partnerships with other universities. For instance, UPOU along with Hanoi Open University, Open

University of Malaysia, Sukhothai Thammathirat Open University, and Universitas Terbuka have banded together to co-develop course materials for a master's degree in ASEAN studies. Such consortium can also be tapped in the co-development and delivery of MOOCs. Like-minded distance learning institutions can also collaborate on developing open platforms that can be accessed by different institutions for the delivery of MOOCs.

In terms of crediting of courses, our online courses are similar to the recent collaboration of 17 universities exchanging credits under the distributed online collaborative learning (DOCC)—a model that can be done among OU5 for ASEAN studies or any other group of universities within a regional bloc.

National open universities need not target the same set of learners being targeted by conventional universities. In the case of UPOU, a substantial percentage of our MOOCs learners are overseas Filipinos. In an increasingly globalized world, people are becoming more mobile, leading to the phenomenon of overseas contract workers, immigrants, and expatriates. MOOCs can be a means for universities to continue serving the needs of its citizens who are based abroad.

UPOU's move to offer its MOOCs can be considered as an effort to help scholars, researchers, and teachers in developing countries proliferate the web with their own stories, narratives, perspectives, experiences, and solutions to problems as well as thicken the discourse in areas they feel they are good at, share it globally and bring to the fore the richness of cultural diversity. MOOCs and the open educational resources (OER) that go with them can offer us opportunities to claim spaces for ourselves in terms of diversity in this constantly shifting domain that is the web. There should be efforts on the part of both academic institutions and governmental agencies to maximize the potential of MOOCs for them to genuinely serve lifelong learners and contribute to the overall development of all countries and its peoples.

In a way, the sudden popularity of MOOCs has sort of surprised those of us in the ODL sector. I understand that there is still skepticism about its role in open learning. Despite some progress in terms of MOOC design and delivery at UPOU and other universities, there are many issues and concerns that surround MOOC deployment in its current format. Having said this, MOOCs also offer an opportunity for open access to education and the continuous acquisition of knowledge and skills by an increasingly mobile populace. But as we know, the communities of learners we serve are diverse. And it is incumbent on our part to develop our respective versions and models of MOOCs.

It brings our university closer to an integrative implementation of our mandates of teaching, research, and public service. Lines between and among these concepts may blur and we may take different paths towards MOOCs, but I know that we would always be guided by the same passion that brought our institutions into being—openness, access, equity, and excellence.

## Open and Distance e-Learning for Island Resiliency and Sustainability

28 November 2014

The main organizers of this event: the University of the Philippines Los Baños-College of Human Ecology (UPLB-CHE), HUMEIN, CHEAA, Society for the Conservation of Philippine Wetlands; Plenary Speakers; UPLB officials; UPOU officials; guests; UP faculty and staff; UP students; conference participants; foreign guests; ladies and gentlemen, a pleasant morning to everyone.

The UPOU community is very privileged to be one of the partners in the 1st Asia Pacific Conference in Human Ecology of Island Resiliency and Sustainability (APCHEIRS). The UPOU is grateful to be part of the diverse group of stakeholders to share and critically reflect on the practices, experiences, and research results on the various initiatives, issues, and challenges on resiliency and sustainability.

In this conference, we would like to introduce and share the concept of Open and Distance e-Learning or ODeL—a worldview that combines the philosophy of open learning, the pedagogies of distance education, and the technologies of e-Learning—and the possibilities it offers in helping address sustainability and resiliency issues. As the leading institution in ODeL, we would like to harness our experiences in online education to help inform and capacitate people in the country and the Asia-Pacific region about resiliency and sustainability.

ODeL is a world view that surfaces the convergence and integration of the concepts of open learning grounded in the philosophy of openness and inclusion, distance education and its concept of learner centeredness and flexibility, and e-learning with its connectivity and constructivist framework. The convergence and interweaving of these three domains infused with the values that underpin the universitas—excellence, academic freedom, humanism, intellectual pluralism, democracy, and service to society—will pave the way for social transformation.

The concepts of resilience and sustainability are closely linked with UPOU's thrust towards lifelong learning. In this world of extreme environmental problems and rapid technological changes, it is imperative for our society to strengthen our capacity to survive, adapt, evolve, and grow amidst all of the unforeseen changes and catastrophic events around us. Being resilient means more than just bouncing back but entails learning, changing, adapting, and becoming more flexible. ODeL opens up possibilities to change how individuals and communities think, learn, exchange ideas, construct new knowledge, and develop solutions to existing problems.

ODeL allows people to learn collaboratively and build communities in these new dimensions of connectivity, interactivity, and ubiquity. This multimedia digital era not only calls for knowledge about environmental issues but what is more exciting is how the affordances of these multimedia capture these issues as it happens and allow for the exchange of ideas and solutions from diverse groups across the globe with similar

interests and experiences. Achieving resiliency and sustainability requires innovation, creativity, foresight, collaboration, ubiquity, and openness.

We now all live in a globalized and highly interconnected society. However, along with economic and technological advances and progress, our global community is subjected to various kinds of imbalances and threats such as climatic, financial and economic, health, food, political and security. Small islands, not just in the Philippines and Asia Pacific but all over the world, are particularly at risk because of their vulnerability to unpredictable weather conditions, rising sea levels, economic vulnerability and geographic isolation.

As part of this global community, it is our responsibility as an ODeL institution to maximize the affordances of information and communication technology (ICT) to help build the capacity of small islands to adapt, become resilient and become sustainable. By reaching out to the small islands, we are achieving our mandate of widening access to quality education. Small islands are marginalized geographically as they live in hazardous areas; marginalized socially as they lack social protection and health services; marginalized economically as they usually belong to the low-income groups and are resources-dependent; lacking in security as they are prone to terrorists attacks; and marginalized politically as they are oftentimes excluded from political processes and effective representations in government structures. We all know that environmental threats and hazards cannot be prevented but the risks brought about by these conditions can be reduced and mitigated. As an institution committed to widening access to quality education, it is important to reach out to these small islands and other remote areas to ensure inclusiveness and equity to help build resilient and sustainable communities.

The following are some possibilities of ODeL towards island resiliency and sustainability: Capacity development on resiliency and sustainability through e-Learning – UPOU offers the following courses through online learning to help address environmental issues and challenges and to help build resilient and sustainable communities:

Master of Environment and Natural Resource Management (MENRM) – graduate program designed to give students a multi-disciplinary perspective and a solid foundation in the art and science of environment and natural resources management. Through this program, people living in remote islands and areas can pursue graduate studies without leaving their work, family, and community.

Responding to Climate Risks in Agriculture and Natural Resource Management – a collaborative initiative with Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA). This is a non-formal course designed to help improve the capacity of Southeast Asian institutions working towards agriculture and rural development to respond to climate change. Organic Agriculture – a non-formal course on the concepts and practices of organic agriculture towards food security, resiliency and sustainability. The UPOU will launch its first mobile apps on Organic Agriculture. The mobile apps is free and will provide users with basic knowledge on Organic Agriculture, latest news and updates on Organic Agriculture, and guide users on how to practice Organic Farming/Gardening.

We know that almost all Filipino families own a mobile phone. This mobile apps on organic agriculture will provide them with the necessary information and skills on sustainable farming practices to help address the issue of food security and environmental degradation.

Satoyama Online (Living in Harmony with Nature) – a non-formal course on socio-ecological production landscape which has been approved as a global initiative intended to address challenges in biodiversity conservation.

UPOU continues to explore ways to reach out to more people. Its learning management system or virtual classroom is now more mobile friendly, thus allowing UPOU students to access classes anytime, anywhere.

Strengthening Communities of Practice through Massive Open Online Courses (or MOOCs) - MOOCs are online courses that are freely open to unlimited number of students. The UPOU will be offering its MOOC on Inter-Local Cooperation (ILC). This course is developed in partnership with the German International Cooperation - Decentralization Program. This MOOC on ILC will bring together individuals with common interests towards

resiliency and sustainability. This course will help small islands forge partnerships among different stakeholders and interest groups.

UPOU is also developing a MOOC on Disaster Risk Reduction Management (DRRM) to reach out to local government officials, civil society, private organizations and other interest groups who do not have the luxury of time to attend face-to-face courses on DRR. This will promote collaborative learning, sharing of knowledge and experiences, and generate new ideas and development.

In partnership with the Philippine Long Distance Company (PLDT), the UPOU has delivered MOOCs in android apps development and technopreneurship. The University has also collaborated with the local Business Processing Outsourcing (BPO) industry for the development and delivery of MOOCs in service management to address the rapidly increasing demand for talent of our burgeoning BPO sector. We are currently offering the MOOCs on Business Process Management 101 and Business Communication. Other courses to be offered are Service Culture, Systems Thinking, and Advanced Business Process Management.

This will provide alternative opportunities for the youth residing in remote islands and areas of the country to acquire new skills needed by the industry.

**New Paradigm of Building Global Teaching and Learning Communities**

UPOU also promotes women empowerment through its participation in the Philippine Digital Literacy Campaign for Women which aimed to identify 10,000 women from impoverished communities in the country and empower them through ICT training.

As communities become more connected and ICTs become more sophisticated, e-learning has become a viable option in reaching out to learners from across islands. ICT has merged media institutions, educational institutions and communities of practice into a new paradigm of building global teaching and learning communities, thereby changing how new knowledge happens.

Public information/education through multi-media and social media – In this highly networked society, information moves very fast. For islands to be resilient, there is a need to maximize the use of all media rolled into one—print, radio, television, digital media. Social media has also gained popularity in times of disaster as experienced during the time of typhoons Ondoy, Yolanda, and Glenda. Social media allows people to participate and create conversations instead of merely receiving information. Access to Internet allows people to access the Nationwide Operational Assessment of Hazards (Project NOAH) of the Philippine Department of Science and Technology (DOST), which offers an online platform to monitor typhoons and floods based on real-time data feeds from 1,000 rain and water level sensors nationwide and the internationally renowned national 3D mapping project called Disaster Risk Assessment, Exposure and Mitigation-Light Ranging and Detection Technology (DREAM-LiDAR).

Community preparedness through ICT tools – Computer softwares and applications that are freely available and can be easily accessed even in remote areas will help prepare the communities for disasters. Apps such as *Disaster Alert* is a mobile multi-hazard monitoring application created for iOS and Android™ users. It provides users with near real-time access to data on active hazards globally—showing events that are designated potentially hazardous to people, property, or assets. Disaster Alert makes complex technical and scientific information easy to understand. Then there is *Waze* which is a free app that can help when searching for a good evacuation route. *Batingaw*, a Philippine disaster response app, provides users with access to the latest reports about disasters as well as information about the locations of the nearest responders, evacuation centers and hospitals. Batingaw helps monitor Philippine government agencies in times of need and provides utilities that can help in an emergency. *Kuwago* was created to help local government units (LGUs) make smart decisions to solve problems of floods and landslides especially in vulnerable and poor areas based on real-time and available weather data. *Tudlo* can tell its users if there is a natural disaster within their vicinity, such as an earthquake, flood, typhoon, fire, heat-wave, an act of terrorism, car or plane accidents, or even a pandemic alert.

Online environmental advocacy – A repository of information about disaster risk reduction, climate change adaptation and other information about resiliency and sustainability to help in decision making. This can also serve as venue for exchanging ideas, experiences, and lessons learned. We are now living in the digital age and undeniably the Internet is now the fastest way to send out information to people. Through the use of various multimedia and online technologies, we can reach out to more people and have a stronger environmental advocacy.

Capacity building of the youth sector – UPOU through its project 'UPOU Earth Ambassadors' trains a core group of elementary students to be stewards of the environment. This can be replicated in other parts of the Philippines through sharing of experiences, and lessons learned. The young Earth Ambassadors have been planted with the seed of environmentalism and we hope to continue to support them in their roles as ambassadors and stewards of our planet and the environment.

Community participation and engagement – UPOU conducts lectures, forums, symposia and conferences that are web streamed to allow people to have free access to scientific knowledge. They can also interact by sending their questions through email or private messaging. Through these venues, UPOU advocates for the protection of the vulnerable sector of society in times of disasters (women, children, elderly, people with disability).

Of course, these possibilities and affordances of ODeL also face some issues and challenges such as infrastructure damage and telecommunication loss, not dependable wireless networks, power disruptions, poor digital literacy, digital divide. As ODeL is highly dependent on ICT, these are the areas that need improvement and special attention.

This now brings us to the concept of e-resilience. E-resilience is defined as "a property of livelihood systems by which ICTs interact with a set of resilience sub-properties namely, robustness, scale, redundancy, rapidity, flexibility, self-organization and learning, enabling the system to adapt to the effects of climate change." E-resiliency simply means the integration and maximization of ICTs to climate change adaptation and disaster risk reduction. ICT has a large potential to strengthen island resiliency and sustainability. Let us explore each of these sub-property as they relate to e-resiliency:

Robustness – refers to the "ability of the system to maintain its characteristics and performance in the face of environmental fluctuations, including shocks." E-resiliency in this context means strengthening ICT infrastructures that support climate change adaptation and disaster risk reduction. This means investing on telecommunications, wireless networks, and business continuity systems that will not collapse in times of disasters.

Scale - refers to "breadth of assets and structures a system can access in order to effectively overcome or bounce back from or adapt to the effects of disturbances." This means access of the community to networks of support outside of the geographical boundaries of the community. During and after the disaster, communities should have immediate access to financial and human resources through ICT. Social media and mobile phones have allowed direct access of donors to communities, for example in the case of Yolanda, the tech community has been swift in responding. The online communities all over the world such as Geeklist and The Standby Task Forces have organized hackathons, coordinated crisis mapping and opened discussions with first responders.

Redundacy - is the "extent to which components within a system are substitutable; for example, in the event of disruption or degradation." An example of this is the SMART Padala, through which money can be sent to communities. This releases commerce from the constraints of geography since it provides "commercial redundancy" through this system.

Rapidity - refers to "how quickly assets can be accessed or mobilised to achieve goals in an efficient manner." ICT can help speed up access to information. The recent experiences of our country shows how rapidly the global community responded with the help of multimedia. Local reporters are able to send footages to global networks such as CNN and BBC. ODeL also allows for fast inclusion of climate change adaptation and disaster risk reduction in school curriculum. In the past, it would have been impossible to revise printed materials and include recent and updated lessons about climate change and disasters.

Flexibility - refers to the "ability of the system to undertake different set of actions with the determinants at its disposal, while enabling them to utilize the opportunities that may arise from change." ICT allows for sharing of experiences, lessons learned and resources by different groups with similar interests and experiences. This will promote greater flexibility on the part of the communities. The use of global information system (GIS) also gives local and national leaders enough room for flexibility in providing support.

Self-organization - is the "ability of the system to independently rearrange its functions and processes in the face of an external disturbance, without being forced by the influence of other external drivers." ICT plays a very valuable role in facilitating coordination among stakeholders.

Learning – is an "attribute closely linked to the dynamic nature of livelihood systems, and relates to the capacity of the system to generate feedback with which to gain or create knowledge, and strengthen skills and capacities." Different platforms and tools such as blogs and wikis allow for collaborative learning, reflections, and sharing of lessons learned and practical experiences.

UPOU continues to explore and maximize the use of technology in providing virtual and physical spaces for learning. UPOU creates venues for people to share their experiences, stories, and solutions to challenge of resiliency and sustainability.

Connectivity, flexibility, participation, and plurality – These are the values that have defined ODeL. UPOU is committed to collaboratively and creatively work with other stakeholders in creating spaces and possibilities afforded by ODeL for resiliency and sustainable development.

Thank you.

# Contributors

**Grace Javier Alfonso** is the current Chancellor of the UP Open University and a Professor of Film and Mass Communication at the UP College of Mass Communications. She is also Chair of the Commission on Higher Education (CHED) Technical Panel for Transnational and Distance Education and President of the Philippine Society for Distance Learning (PSDL). Her research and extension interests include open and distance e-learning, Philippine film and television, and cultural studies. She has a PhD in Communication from the UP Diliman.

**Alexander G. Flor** is Professor and Chair of the Doctor of Communication program of the UP Open University (UPOU) Faculty of Information and Communication Studies. Formerly UPOU Vice Chancellor for Research and Development, he was the first Dean of the Faculty of Information and Communication Studies. He chaired the Commission on Higher Education (CHED) Technical Committee for Alternative Learning Systems and held the UP Centennial Professorial Chair during the University's 100th year. He served as Professor of development communication at UP Los Baños and Visiting Professor at Kasetsart University. He was Fulbright Post-Doctoral Fellow at the East West Center Institute of Communication and Culture in Honolulu.

**Primo G. Garcia** is Professor and Director of the Information Office and the Multimedia Center of the UP Open University. His research interests are in organizational discourse, strategic change, virtual organizations, digital cultures and e-learning, and research and development management. He has a PhD in Organization Studies from the University of Melbourne.

**Emil Quinto Javier** was the 17th President of the University of the Philippines (UP) from 1993 to 1999 and Chancellor of UP Los Baños from 1979 to1985. He served as Philippine Minister of Science, Chair of the Technical Advisory Committee of the Consultative Group for International Agricultural Research (CGIAR); Chairman of the Board of the International Rice Research Institute (IRRI), Chair and Acting Director of the Southeast Asia Center for Graduate Study and Research in Agriculture (SEARCA), and Director General of the Asian Vegetable Research and Development Center based in Taiwan. He is also a member of the Philippine National Academy of Science and Technology (NAST). He holds doctoral and master's degrees in plant breeding and agronomy from Cornell University and the University of Illinois, respectively.

**Felix Librero** is Professor Emeritus and second Chancellor of the UP Open University (UPOU). He had also performed various capacities at UPOU, including Dean of the School for Distance Education-Los Baños, Vice Chancellor for Research and Development, and Program Chair of the Doctor of Communication program. He was a member of the UP Board of Regents as a faculty representative. He has a PhD in Instructional Systems Technology from Indiana University.

**Melinda F. Lumanta** is Professor and Vice Chancellor for Academic Affairs of the UP Open University (UPOU). She had also served as Vice Chancellor for Finance and Administration, Dean, and Program Coordinator at UPOU. Her areas of expertise are in communication theory and research, organization communication, research and development management, knowledge management, and statistics. She holds a PhD in Communication from Michigan State University.

**Ma. Cristina D. Padolina** was the first UP Open University Chancellor. She is also Professor Emeritus at the Institute of Chemistry, University of the Philippines Los Baños, and had served as Commissioner at the Commission on Higher Education (CHED) of the Philippines.She is the seventh and current President and Chief Academic Officer of Centro Escolar University. She has a PhD in Inorganic Chemistry from the University of Texas at Austin.

**Alfredo E. Pascual** is the current President of the University of the Philippines. He was an Alumni Regent of the UP Board of Regents and President of the UP Alumni from 2009 to 2012. He served as Professor at the Asian Institute of Management, lecturer at Ateneo de Manila University, and instructor at UP Department of Chemistry. He worked at Asian Development Bank (ADB) for 19 years in various positions including Director of Private Sector Operations, Director of Infrastructure Finance, and Advisor for Public-Private Partnership. He was among the pioneers of investment banking in the Philippines, holding senior executive positions in Bancom Development Corporation, Philippine Pacific Capital, and First Metro Investment. He holds a Master of Business Administration (MBA) from UP Diliman. Currently, he is a Professorial Lecturer at the College of Economics and Management of UP Los Baños.

**Paz Eulalia L. Saplala** was the first Vice Chancellor for Student Support Services of the UP Open University. She was a Professor of English at University of the Philippines Los Baños (UPLB) where she also served as Associate Dean of the College of Arts and Sciences. She is a recipient of the UPLB Distinguished Teacher Award in the Humanities and Social Sciences. She also served as Chairman of the UPLB Cultural Affairs Committee. She has a PhD in English from University of Minnesota and was a Fulbright Travel Grantee to the State University of Iowa for a Master of Arts in English.

# Notes

**Foreword**

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**Bio Note on Maria Cristina D. Padolina**

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5 These reflections of Tina and her husband William were gathered in *Panambitan*, a collection of meditations of Tina and William which they shared with their friends on the occasion of their 40th wedding anniversary. *Pananambitan* "is a Filipino word that denotes prayer and supplication" (Preface).

6 *Panambitan*, p. 47.

7 Ibid., p. 48.

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21 Ibid., p. 32.

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**Investiture Address, Swaying with the Dance of Change**

1 Published in the *UP Newsletter* in October 2001.