QUALITY INITIATIVES IN AN OPEN AND DISTANCE e-LEARNING INSTITUTION:
TOWARDS EXCELLENCE AND EQUITY

Melinda F. Lumanta
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EDITORS

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University of the Philippines
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FOREWORD

Ensuring quality education is integral to the University of the Philippines Open University's pioneering efforts in democratizing access to higher education through open and distance learning. That mandate, as enabled and strengthened by various instrumentalities like RA 9500 (The University of the Philippines Charter of 2008) and RA 10650 (The Open and Distance Learning Act), implies sharing as integral to that leadership role.

Unlike conventional forms of instruction, where Quality Assurance Frameworks have been established, there is a pressing need for similar models to be developed in open and distance e-learning (ODeL). Despite numerous efforts of ODeL scholars during the past few years, the innovative nature and the philosophical underpinning of this mode of instruction call for scrutiny and discourse utilizing various creative and critical perspectives, while considering the intervention of latest advancements in technology.

This book is an attempt to capture a phase of this continuous scrutiny and discourse on quality assurance for ODeL at the UPOU: its thoughts, practices, and initiatives which are geared towards improving the quality of its academic operations under an open philosophy and distance education modality, shared by leading ODeL scholars who serve as chapter authors.

I commend the editors, Dr. Melinda F. Lumanta and Dr. Primo G. Garcia, and the UPOU publication team, for coming up with this book. My heartfelt thanks also to the peer reviewers of the book, Dr. Sanjaya Mishra of the Commonwealth of Learning and Dr. Alyssa Peleo-Alampay of the University of the Philippines, both of whom are highly-regarded experts in the field of quality assurance in higher education.

This book will be a useful resource in equipping educational institutions towards the "new normal" in teaching and learning, while providing valuable lessons for universities that may be interested in pursuing remote teaching and technology-enhanced learning.

DANILO L. CONCEPCION
UP President, 2017–present

PREFACE

In higher education, quality is often associated with indicators suggestive of exclusivity rather than inclusivity. Traditional measures of quality such as admissions policies requiring a rigid selection process, faculty-student proportion at a relatively low ratio, and other perceived barriers such as economic, geographic, and cognitive are often used to indicate quality education. However, under an open education philosophy, which promotes inclusivity through universal accessibility, equity, and openness, these quality indicators need to be revisited and reconceptualized.

In the Philippines and in the Region, the University of the Philippines Open University (UPOU) is a premier institution pioneering in open and distance e-learning (ODeL). ODeL combines the philosophy of open learning, the pedagogies of distance education, and the ubiquity of information and communication technologies (ICTs) in e-learning. These three key features of ODeL and its components such as access and equity, learner-centeredness, connectivity, aligned with university values of excellence, intellectual pluralism, cultural diversity, among others, bring out the uniqueness in the delivery of open and distance education. As part of its mandate, UPOU articulates standards and guidelines for open and distance learning (ODL) institutions.

This volume presents the evolution of the concept of quality in higher education and how it has been applied in ODL and identifies relevant issues in a technology-enhanced education system. It documents the thoughts, practices, and initiatives of an ODeL institution with regard to its academic operations. Finally, it surfaces the unique features that define and enhance academic excellence in ODeL.

An introductory chapter provides a background on and surfaces quality issues arising from the uniqueness of an ODeL institution to situate the discourse on quality for ODL. Succeeding presentations argue for the inclusion of equity, universal accessibility, sustainability dimensions, and other characteristics as measures of quality in ODL institutions.

The next set of chapters presents how academic excellence is currently practiced in UPOU as it engages in self-reflection to reexamine the quality

dimensions in the context of ODeL. It is introduced by the university's strategic direction anchored on its flagship program, *QAlidad*. The chapters focus on initiatives, projects, and technologies employed by the University in addressing quality issues, not only in its tri-function of teaching, research, and public service, but just as important, in student support services.

UPOU's mandate under Republic Act 10650 to set standards in ODL in the country and its leadership role in the ASEAN region provide the context in the succeeding chapters which describe initiatives in developing an accreditation system and measures of quality in an attempt to capture relevant dimensions of quality in technology-enhanced and distance learning higher education institutions. The book intentionally ends with the chapter on identifying possible indicators of quality taking into account the uniqueness of technology-enhanced, open and distance learning.

Although the quality issues and practices here are mostly based on the context and experiences of UPOU, they could also provide relevant lessons for similar institutions that are engaged in open and distance learning institutions. It can also provide insights on quality issues in e-learning for conventional universities that are involved in or interested in pursuing online programs.

The intellectual discourse continues beyond this volume - defining, measuring, and articulating an alternative approach towards evaluating quality in higher education including the use of an analytics-based evaluation approach, rather than or in conjunction with, the current audit-based approach to evaluating quality in higher education.

Melinda F. Lumanta
Primo G. Garcia
Editors

LIST OF ACRONYMS

A

AA	Associate in Arts
AAOU	Asian Association of Open Universities
AAOUJ	Asian Association of Open Universities Journal
AACSB	Association to Advance Collegiate Schools of Business
ABC	Aruga sa Batang may Cancer
AdCom	Advisory Committee
AJODL	Asian Journal of Open Distance Learning
AI	artificial intelligence
ANU	Australia National University
APEC	Asia-Pacific Economic Cooperation
API	Academic Program Improvement
ASEAN	Association of Southeast Asian Nations
AUN	ASEAN University Network
AR	augmented reality
ARWU	Academic Ranking of World Universities
AV	audio-visual

B

BOR	Board of Regents

C

CAMEO	copying answers using multiple existence online
CAST	Center for Applied Special Technology
CBR	case-based reasoning
CCA	Climate Change Adaptation
CCSN	Caring for the Child with Special Needs
CEC	Continuing Education Committee
CEMCA	Commonwealth Educational Media Centre for Asia

CEP	Continuing Education Program
CHED	Commission on Higher Education
COEs	Centers of Excellence
CODs	Centers of Development
COL	Commonwealth of Learning
CoP	Community of Practice
CPD	Continuing Professional Development
CRG	collaborative research grant

D

DCS	Diploma in Computer Science
DE	Distance Education
DepEd	Department of Education
DOST-PCHRD	Department of Science and Technology Philippine Council for Health Research and Development
DRM	disaster risk management
DST	Diploma in Science Teaching

E

eCom	Electronic Commerce
EFA	Education for All
eTDP	Teacher Development Program through Distance e-Learning
ETEEAP	Expanded Tertiary Education Equivalency and Accreditation

F

FacDev	Faculty Development Program
FAQs	frequently asked questions
FEd	Faculty of Education
FGDs	focus group discussions
FIC	faculty-in-charge
FLEx	Flexible Learning Experience
FMDS	Faculty of Management and Development Studies

FMNP	Financial Management in Nursing Practice
FPQs	Focal Points on Quality
FSTP	Foreign Scholarship and Training Programs

G

GWA	general weighted average
GIZ	German Corporation for International Cooperation

H

HEIs	higher education institutions

I

iAADS	Internal Academic Assessment and Development System
ICDE	International Council for Open and Distance Education
ICOIE	International Conference on Open and Innovative Education
ICT	information and communications technology
ICTDO	Information and Communication Technology Development Office
ID	instructional design
IJODeL	International Journal on Open and Distance e-Learning
InnovaTE	Innovative Teaching and Learning
ION	Illinois Online Network
IoT	internet of things
IQA	Internal Quality Assurance
IRRODL	International Review of Research in Open and Distributed Learning
IRT	Ifugao Rice Terraces
IT	information technology

J

JMDS	Journal of Management and Development Studies

K

KPIs	key performance indicators

M

MC	Multimedia Center
MCQ	multiple choice questions
MODeL	Massive Open Distance e-Learning
MOOCs	massive open online courses
Moodle	Modular Object-Oriented Dynamic Learning Environment

N

NAFES	National Agriculture and Fisheries Education System
NEP	New Enterprise Planning

O

OA	Organic Agriculture
OASIS	Office of Academic Support and Instructional Services
ODL	open and distance learning
ODeL	open and distance e-learning
OECD	Organisation for Economic Co-operation and Development
OEI	Online Education Initiative
OEP	open educational practice
OER	open educational resource
OFWs	Overseas Filipino Workers
OPA	Office of Public Affairs
OSA	Office of Student Affairs
OSP	Online Student Portal
OSCQR	Online SUNY Course Quality Review Rubric
OULD	Open University Learning Design
OUR	Office of the University Registrar
OVCAA	Office of the Vice Chancellor for Academic Affairs
OVPAA	Office of the Vice President for Academic Affairs

P

PCMC	Philippine Children's Medical Center
PDA	Program Development Associate

PDCA	Plan-Do-Check-Act
PED	Personal Entrepreneurial Development
PEPT	Philippine Educational Placement Test
PHREB	Philippine Health Research Ethics Board
PLDT	Philippine Long Distance Telephone Company

Q

QA	Quality Assurance
QACEP	quality assurance for continuing education programmes
QLT	Quality Learning and Teaching
QOCI	Quality Online Course Initiative
QOLT	Quality Online Learning and Teaching

R

RBCP	resource-based course package
RBL	resource-based learning
RBR	rule-based reasoning
RCRANRM	Responding to Climate Risks in Agriculture and Natural Resources Management
REPS	Research, Extension, and Professional Staff
RID	Rapid Instructional Design
RUNA	Research Utilization in Nursing Administration

S

SAfE	Simplified Accounting for Entrepreneurs
SDEs	Schools for Distance Education
SDG	Sustainable Development Goal
SDM	Satoyama Development Mechanism
SEI-CMM	Software Engineering Institute's Competency Maturity Model
SME	subject matter expert
StuFAPs	Student Financial Assistance Programs
SUNY	State University of New York

T

TBL	Triple Bottom Line
TESDA	Technical Education Skills and Development Authority
THE	Times Higher Education

U

UDL	Universal Design for Learning
UgAT	Undergraduate Assessment Test
UID	Universal Instructional Design
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UP	University of the Philippines
UPOU	University of the Philippines Open University
UPOU IREC	UPOU Institutional Review Ethics Committee
UPOU RPC	UPOU Research and Publications Committee
UWIDEC	University of the West Indies Distance Education Centre
UK	United Kingdom

V

VLE	virtual learning environment
VR	virtual reality
VUCA	volatile, uncertain, complex, and ambiguous

W

WCAG	Web Content Accessibility Guidelines
WWW	World Wide Web

CONTENTS

CHAPTER 1

Situating Quality Concepts, Issues, and Measures in Open and Distance Education

Melinda F. Lumanta, Primo G. Garcia,
Ammanessi Joy S. Lapitan, Ivy Rosemarie G. Ortiguero

ABSTRACT

Quality has been a long-standing issue in open and distance education. This chapter ventures to identify some pressing issues faced by open and distance learning (ODL) institutions in efforts to achieve quality through an appropriate quality assurance (QA) approach. It traces the evolution of the concept of quality and QA in higher education, how it has been applied in open and distance education and identifies current quality and equity issues such as widening access, digital inclusion, contextualization, and partnerships taking place in the context of a technology-enhanced education system. The chapter sets the stage for the succeeding chapters of the book which deal with initiatives of an open and distance e-learning (ODeL) institution driven by the requirements and demands of Industrial Revolution 4.0, Web 4.0, and Education 4.0.

INTRODUCTION

While the concepts of quality and quality assurance (QA) originated from the manufacturing sector, its application has become imperative in the field of education. Recent literature shows various scholarly reviews (Allais, 2009; Harvey, 2005; Kanwar, 2013; Mishra, 2007; Vidovich, 2001) that describe the evolution of the concept of quality and related terms such as total quality management, accreditation and certification, and QA and how the education sector has adapted the concept, approach, and measurement of quality and QA.

In higher education, quality as a concept has been considered to be multi-dimensional and ever-changing (Vidovich, 2001), often encompassing all academic functions and services such as "teaching and academic programmes, research and scholarship, staffing, students, infrastructure and the academic environment" (United Nations Educational, Scientific and Cultural Organization [UNESCO], 1998, p. 1). QA, on the other hand, has been defined as the means to achieving quality using quality standards in assessing and ensuring the potential of educational institutions to effectively perform and deliver these functions and services (Friend-Pereira et al., 2002) and is often conducted either through internal self-evaluation or by an external review body (UNESCO, 1998). In the past, QA was imposed through a set of *fixed criteria* that was applied to the entire educational system. However, as the concept of learning itself evolved and institutions began to realize that quality for higher education is a continuous process of adjustments, reflections, and reforms, the approach to QA slowly shifted towards using a set of more *flexible criteria* that recognizes the individual experiences of institutions (Reisberg, 2010). As higher education institutions (HEIs) became diverse in terms of their systems, traditions, and identities, scholars argue that the set of criteria used for QA should be more "constructively ambiguous" and should allow for different interpretations of quality (Sobrinho, 2008, as cited in Reisberg, 2010, p. 19).

In line with the development of the concept of quality, models, and frameworks to ensure quality education in HEIs and evaluation of these models and frameworks were conducted. Some of these frameworks include the Asian Association of Open Universities (AAOU) framework, Commonwealth of Learning (COL) QA toolkit, and Association of Southeast Asian Nations (ASEAN) University Network (AUN) QA model. In 2015, Ossianilson et al. provided a global overview of the existing quality models in online and open education.

With the introduction of distance education (DE), new conditions and structures have emerged in higher education, necessitating alternative ways of conceptualizing and measuring quality. For instance, faculty roles, course development and delivery, student support, and use of learning resources in DE could be far different from traditional classroom-based education. In these digital times, DE, which includes online or e-learning, largely relies on an information and communications technology (ICT) infrastructure to backstop academic and non-academic operations of the institution. Needless to say, new and emerging conditions presented by DE, as a modality of teaching and learning, challenge the validity of existing QA systems in higher education.

While there are those who argue that DE is already being considered as a long-established form of higher education and thus can be treated in the same way as traditional education, there are also those who assert that, with the uniqueness in its mode of educational delivery, DE might find existing QA mechanisms insufficient (Stella & Gnanam, 2004). Moreover, under an open and distance learning (ODL) set up, where the inclusion of the open philosophy in all aspects of teaching and learning is emphasized (e.g., open admissions, open curriculum, open educational resources), quality and QA concepts continue to be challenged which has triggered changes in the education sector as made apparent in the so-called Education 4.0 scenario.

In this chapter, we venture to identify some pressing issues faced by ODL institutions in their efforts to achieve quality through an appropriate QA approach, setting the stage for the succeeding chapters of the book which deal with initiatives of an open and distance e-learning (ODeL) institution. We begin with the evolution of the concept of quality and QA in higher education and how it has been applied in open and distance education. Relevant quality issues in a technology-enhanced/mediated education system driven by the requirements of Industrial Revolution 4.0, Web 4.0, and Education 4.0 are identified.

EVOLVING CONCEPT OF QUALITY IN HIGHER EDUCATION

Early literature noted that the quality movement started during the pre-1900s with "quality as an integral element of craftsmanship" evolving to a "total quality management system" during the 1990s (Sallis, 1996, as cited in Mishra, 2007). Some of the influential thinkers of quality included Edward Deming, Joseph Juran, and Philip Crosby, among others. Deming

(1982), considered as the father of the quality movement, published a book containing the "theory of quality management" in which he stressed on "prevention rather than cure as the key to quality" (p. 18). On the other hand, Juran (1989) defined quality as "fitness for purpose" while Crosby (1984) defined quality as "conformance to customer requirements" (Mishra, 2007, pp. 18–19).

Quality first started as a concept in the industry and the field of management during the 1920s (Mishra, 2007). Whereas, QA traces its origin in the industry during the second half of the twentieth century in which large-scale manufacturing organizations monitor the quality of their product to prevent having defective ones through the establishment of QA of systems and processes in all steps of the production, known as "quality control" mechanisms (Allais, 2009).

Quality is known to be a subjective, elusive, and complex term. Schindler et al. (2015) expounded on three challenges in defining quality as a concept. Primarily, quality is an *elusive* concept that connotes different meanings for different stakeholders. Quality is also a *multidimensional* concept which entails defining it as one-dimensional will result in a "lack meaning and specificity or are too general to be operationalized" (p. 4). Lastly, quality is a "dynamic" concept that must be viewed in a larger context in the educational, economic, political, and social landscape. A definition of quality is a requirement in constructing definitions of QA as one should understand quality before acting on assuring it (Schindler et al., 2015).

Quality in Higher Education Institutions

By the 1970s, as influenced by business models, QA, as a concept, was disseminated in different sectors, including the government which is closely associated with education. This was prompted by the shift in the focus of quality management, a concept associated with QA, to the systems and processes from merely ensuring quality at the product level (Allais, 2009).

In the Australian context, Vidovich (2001) is credited with having studied the discourse on the history of QA in relation to educational policies. There have been multiple and contradictory discourses on quality but the concept of quality as "excellent standards" prevailed. Moreover, internal stakeholders were given greater emphasis than external stakeholders. Prevalence of qualitative peer judgements is also evident.

By the mid-1990s, the approach to quality started in HEIs. In this time period, the concept of "QA" prevailed over "excellent standards". Quality was further recognized by institutions as it has policy implications. Qualitative and quantitative data were also supplied by institutions, although the latter was dominant since quantitative performance indicators were emphasized. It can also be noted that external stakeholders were driving the quality agenda in this period (Vidovich, 2001).

Towards the end of the decade, Vidovich (2001) recorded that QA in higher education was more focused on outcomes and external stakeholders. Institutions were also expected to have "improvements" as quality assessments have shifted from "reviews" to "audits." In terms of discussions on its policy implications, institutions were in a dilemma between institutional autonomy and the need for accountability. The prospective balance of qualitative and quantitative assessments was scantily discussed.

Differences between DE and traditional classroom were also discussed by Stella and Gnanam (2004) in their study, where they cited a number of existing QA policies and practices in higher education from various sources and argued that QA in DE has to be approached differently. The study of Thurab-Nkhosi and Stewart (2009) analyzed the QA processes of an evolving and dual mode university, the University of the West Indies Distance Education Centre (UWIDEC), in relation to conventional approaches to QA in higher education. For quality, defined as "fit for purpose" (p. 264), to be attained at the course level, the organization needs to ensure: institutional support, effective course development, learner-centered interactive delivery, support for students, support for faculty and a system of evaluation.

Quality in Open and Distance Learning

Kanwar (2013), in a brief overview of DE's history, cited that when the first known distance teaching and open universities, the University of South Africa in 1946 and The Open University in the United Kingdom (UK) in 1969, respectively, "there was no discussion of QA as it is understood now" (p. xvii). Citing Mills (2006), Kanwar mentioned that "standards" or "objective measurable outcomes" in the form of faculty, infrastructure and facilities, entry requirements, prescribed curriculum, attendance, and evaluation procedures were used to assess an institution's performance during the period of 1960s to 1970s. Soon after, as the concept of DE further developed, these standards got refocused to course preparation, quality of

materials, feedback, and interactivity. With the emergence of information communication technologies (ICTs) in the 1990s, these quality standards were once again expanded to include personalization and interactivity (Kanwar, 2013).

Jung (2007) acknowledged that based on a 2005 survey, a culture of quality was observed to be emerging or has been fully integrated in ODL institutions, with some of them having a central QA unit. There was also an apparent desire not only for internal but also for external accreditation. Belawati and Zuhairi (2007) described Universitas Terbuka's innovative QA system, which adhered to the concept of quality as a continuous improvement rather than an end state. It contextualized the AAOU QA Framework for a mega university such as the Universitas Terbuka. In 2010, the University of the Philippines Open University (UPOU) participated in the Round 1 Delphi Study in improving the draft AAOU QA Framework (AAOU 2010 Annual Report, 2011).

Among the notable QA frameworks and models for ODL institutions and programs are the AAOU QA framework, the Commonwealth of Learning (COL) Regional Community of Practice (CoP) QA Guidelines in ODL, and the Asia-Pacific Economic Cooperation (APEC) QA of Online Learning Toolkit. The COL has its QA toolkit at the institutional level that is dedicated to DE. In the ASEAN Region, the ASEAN University Network's (AUN) QA framework is the most widely used QA framework of HEIs; however, it is not specifically designed for ODL institutions.

At the institutional level, the COL QA Toolkit for DE and AAOU QA Framework exhibits identical QA standards/criteria. In comparison to the two, the APEC QA toolkit adds emphasis on review and improvement, student experience, and learning outcomes. By contrast, the AUN-QA covers a more comprehensive list of QA standards/criteria (Table 1).

Table 1

Comparison of QA frameworks and models at the institutional level

AAOU QA Framework	COL QA Toolkit (2009) For Distance Education	APEC QA Toolkit for Online Learning (2017)	ASEAN University Network (2016)
Policy and Planning	Vision, Mission and Planning		Vision, Mission, Culture Policies for Education, Research, and Service
Internal Management	Management, Leadership and Organizational Culture	Leadership and Management	Governance Leadership and Management Strategic Management
Learners and Learners' Profile	Learner		Student Recruitment and Admission
Infrastructure, Media, and Learning Resources	Infrastructure and Learning Resources	Resources	Financial and Physical Resources Management
Learner Assessment and Evaluation	Learner Assessment	Assessment and Integrity	Student assessment
Research and Community Services	Research Consultancy and Extension Service		Research Management Research Collaboration and Partnerships Research Results Service Results
Human Resources	Human Resource and Development	Staffing Profile and Professional Development	Human Resources Management
Learner Support	Learner Support	Student Information and Support	Student Services and Support

AAOU QA Framework	COL QA Toolkit (2009) For Distance Education	APEC QA Toolkit for Online Learning (2017)	ASEAN University Network (2016)
Program Design and Curriculum Development	Program Design and Development	Curriculum Design	Curriculum Design and Development
Course Design and Development	Course Design and Development		
		Review and Improvement	Internal Quality Assurance (IQA) System Quality Enhancement
		Student Experience	Educational Results
		Learning Outcomes	
			Teaching and Learning
			Intellectual Property Management
			Financial and Market Results
			External Relations and Networks
			Internal and External QA Assessment
			IQA Information System

Both the APEC and AAOU have no QA framework/model at the programme level. The AUN-QA Framework consists more standards/criteria than the COL Regional CoP QA guideline. Nonetheless, the two frameworks/models are similar in four aspects—facilities and infrastructure, student support, program design and structure, and assessment (Table 2).

Table 2

Comparison of QA frameworks and models at the program level

COL Regional CoP QA Guidelines (2019) for ODL	ASEAN University Network (2015)
Institutional Planning and Management	
Infrastructure and Learning Resources	Facilities and Infrastructure
Learner Assessment and Evaluation	Student Assessment
Learner Support and Progression	Student Quality and Support
Programme Design and Development	Program Specification Programme Structure and Content
Course Design and Development	
	Expected Learning Outcomes
	Teaching and Learning Approach
	Academic Staff Quality
	Support Staff Quality
	Quality Enhancement
	Output

By the start of the millenium, approaches in dealing with the QA of open and distance education developed, especially with the emergence of electronic learning or e-learning. Kidney et al. (2007) identified eight (8) strategies in a QA approach in e-learning courses to include instructional design, web development, editing, usability and accessibility, maintainability, copyright, infrastructure impact, and content and rigor. Frydenberg (2002) presented nine (9) sets of standards that must be explored in the case of quality standards for e-learning. This includes institutional parameters such as (1) executive commitment; (2) technological infrastructures; (3) student services; (4) design and development; (5) instruction and instructor services; (6) program delivery; (7) financial health; (8) legal and regulatory requirements; and, (9) program evaluation.

Holistic approach to QA began to develop since QA encompasses all aspects of education. For e-learning development and delivery, Abdous (2009) proposed a framework to enable institutions of higher learning to integrate QA into e-learning development and delivery using a life-cycle model. Jara and Mellar (2009) presented the results of case studies that looked into the

way HEIs in the UK apply internal QA procedures in their e-learning courses. It was found that the organizational position of the courses, distributed configuration of course teams, disaggregated processes that characterize e-learning, distant location of students were major factors that impact on QA at the course level.

QA also accounts for the roles and perspectives of stakeholders (e.g., students, faculty, and administrators), as pointed out by Garcell et al. (2007). They further argued that agreements on quality standards among the different constituencies are the responsibility of the institution.

Kunz and Cheek (2016) traced the efforts to address QA for online offerings in higher education over the past decade and reviewed the current position of the online venue in higher education. Through examining the increase in online education and how Association to Advance Collegiate Schools of Business (AACSB)-Accredited Business Schools have been addressed, they have concluded that online education will grow and increase its demand for quality. Therefore, professional development programs must develop quickly through the inclusion of effective instructional techniques, assignments, assessment tools and activities. In simple terms, universities must learn to adapt.

Currently, there are already a number of accrediting bodies, institutes, consortiums, and trade associations for distance learning in higher education worldwide. With the common goal of ensuring quality in DE, they are the ones in-charge of developing sets of standards, criteria, guidelines, or benchmarks which may vary in terms of their "scope, depth, emphasis, and review components" (Southard & Mooney, 2015, p. 56).

Ossiannilson et al. (2015) under the International Council for Open and Distance Education (ICDE) project, provided an overview of the existing standards, guidelines and benchmarks for quality in open, distance, flexible and online education, including e-learning and analysis was done among the quality systems. In the report, findings of the study were further divided into quality spectrum, quality standard models, quality matrix, characteristics of quality systems, nature of quality interventions, and stakeholder perspectives.

Quality spectrum discusses quality as a concept that can be viewed from three levels—macro (national/global dimensions), meso (institutional

matters), and micro (course/module). It can also be categorised based on Software Engineering Institute's Competency Maturity Model's (SEI-CMM) five levels—state, repeatable, defined, managed, optimized. In addition, quality systems can be further characterized whether they are accreditation-based systems, norm-based systems, maintenance of standards, QA-based systems, or mature enhancement-based systems. Quality standard models were found to be mostly related to these three to six main dimensions: staff support (services), student support (services), curriculum design (products), course design (products), course delivery (products), and strategic planning and development (management).

Quality matrix classified the quality standard models reviewed based on what it covers, target groups, scope, intended use, and authority body. The characteristics of quality systems in the field are found to be multifaceted, dynamic, mainstreamed, representative, and multifunctional. In terms of the nature of quality interventions, the institution's maturity with e-learning processes was found to be the determining factor of the type of quality system applied or the way in which the quality system is applied. Stages in the matrix are categorized as initial/early stage, developing, mature, and evolving.

In essence, most of the systems reviewed gave importance to a holistic approach in dealing with quality, even though some of the accreditation systems give emphasis on baseline staffing and resource requirements. A variety of quality tools has been created depending on the context to which it can be applied. There has been no gap in terms of analysis of institutional systems, but all quality systems suffer certain deficiencies. Lastly, the report recommended that there is a need to provide a register of good quality systems and a guide, addressing common issues for providers of quality systems, provide a harmonized regulatory environment ensured by international organizations, and an assured engagement of students in determining quality standards by international organizations.

DISRUPTIONS IN THE EDUCATIONAL LANDSCAPE AND QUALITY ISSUES

Despite the development of these QA initiatives, open and distance education is still somehow seen by the public as being of lower quality than that of traditional education (Hope, 2014). This could be partly driven by the fact that a number of governments have yet to develop a national policy for QA in DE, and that QA is not fully integrated yet into the planning

and operations of DE institutions (Jung, 2013). In addition, technological disruptions have impacted the educational landscape in recent years, which in turn have presented new challenges to conceptualizing and measuring quality in ODL. Below, we present some universal declarations and review major disruptions that impact quality issues in the field of education.

The right to education is one of the basic rights of a person and is an integral part in the plan of action or development of a specific area—whether in the international, regional, or national level. One of the earliest recognition of the right to education was promulgated in 1948 under Article 26 of the General Assembly Resolution 217-A entitled, *The Universal Declaration of Human Rights* (United Nations [UN], n.d.a). This declaration had become the basis of any educational reforms in the world, such as the World Declaration on Education for All (EFA) (UNESCO, 1990) and the United Nations 2030 Agenda on Education for Sustainable Development (specifically the Sustainable Development Goal [SDG] 4) in 1990 and 2015, respectively (UN, n.d.b). The EFA and SDG present an expanded version of the UN Declaration in consideration of the current global needs and situation. Both international declarations not only promote equitable access to quality education and lifelong learning but also identify the necessary support services needed in the pursuit of their respective goals.

In support of the international declarations on education, the ASEAN formulated its work plan on education for 2016-2020 aligned with the SDG 4 of "inclusive and equitable quality education and promote lifelong learning opportunities for all" (Lanceta, n.d., slide 11). The work plan covers the SDG targets in terms of equitable access to quality education at all levels, enhancement/development of one's understanding towards socio-cultural aspects through education, and education support services such as facilities, scholarships, and human resources (teachers).

Given that the promotion of equitable access to quality education and lifelong learning has already been promulgated through these declarations, achieving these goals lies in the active participation of the stakeholders involved. Organisation for Economic Co-operation and Development (OECD, 2012) stated that the "highest performing education systems are those that combine quality with equity" (p. 3), in which equity in education is defined in terms of fairness and inclusion. Hence, educational institutions continuously aim for academic excellence and equity even in the presence of educational reforms accompanied by changes in learning approaches and technological

advances. In recent years, these disruptions, which include the arrival of Industrial Revolution 4.0, the inception of Web 4.0, and the eventual emergence of Education 4.0, have likewise given rise to new challenges and issues that traditional and open and distance education institutions have to face in its pursuit of quality.

The fourth industrial revolution or IR 4.0 is marked by technological breakthroughs that bring together the physical, digital, and biological spheres (Schwab, 2014) and is characterized by "deep integration of intelligence and networking system" (Zhang, 2014 as cited in Guoping et al., 2017, p. 626). Guoping et al. (2017) enumerated the technological drivers that prompted the IR 4.0. These are the internet of things (IoT), artificial intelligence (AI) and machine learning, big data and cloud computing, and digital platform for digital drivers; the autonomous cars and 3D printing for physical drivers; and the genetic engineering and neurotechnology for biological drivers. While the authors have mainly discussed the industrial (manufacturing) and economic implications and coping strategies, they acknowledge that IR 4.0 has an impact in "all aspects of the society" (Guoping et al., 2017, p. 627), which includes the education sector.

The developments in the World Wide Web (WWW) was also seen as one of the disruptions affecting the educational landscape. The web had developed from the Web 1.0 or the "read-only" web to the most recent Web 4.0. As a recent development, it is known for its several definitions, among others, being the "ultra-intelligent electronic agent, symbiotic web, ubiquitous web, and read-write-execution-concurrency" driven by the synergistic interaction between humans and machines (Choudhury, 2014).

Given such advancements, Demartini and Bennusi (2017) profiled the evolution of education. Compared to Education 1.0 to 3.0, Education 4.0 will be relying more on AI applications in terms of the different attributes of education - teacher, content delivery, learning process, learning organization, student, and means. The emerging era of education, Education 4.0, gives us a profile of the current or possible educational reforms that are currently happening or may happen in the near future. These reforms call forth quality, as a moving target, to advance its direction giving rise to new issues of equity and quality.

Due to realities brought about by shifting paradigms and technological advancements, some emergent issues come to the fore which, we

argue, have to be at least in our consciousness as we conceptualize and operationalize quality in the realm of education. Based on a cursory review of the literature as well as experiences on the ground the following general issues are forwarded. Issues on massification, including open admissions and reaching out to marginalized groups, could have implications on quality. Similarly, issues on digital inclusion is seen to have ramifications not just on equity but also on quality. In a networked environment as in IR 4.0, in a symbiotic web as in Web 4.0, and given the affordances of AI in Education 4.0, stakeholder requirements that determine quality in education have likewise to be considered.

Massification was known to develop from the concepts of globalization and internationalization and has forced higher learning institutions to adapt to the challenges and opportunities that come with it (Bamdas, 2014; Altbach et al., 2009). In terms of post-secondary education, massification generally pertains to widening access (Kajubi, 1997 as cited in Lam, 2020). Altbach et al. (2009) noted that widening access to higher education had challenged universities on quality concerns (teaching, learning, and management). As an example, open admission allows multiple entry and exit levels to students that were not necessarily the target recipient. Weller (2014) noted that open education does not cater to the marginalized group as statistics showed that the majority of massive open online courses (MOOCs) and open educational resources (OERs) users are experienced learners, well-educated, well-qualified, employed informal and formal learners. On the other hand, massification also denotes the condition of a decline in quality and standards when the class number is not complemented by the availability of educational resources (Mohamedbhai, 2008, as cited in Lam, 2020).

Additionally, it has consequential quality issues such as increase in attrition rate as ODeL institutions have lower retention rates than campus-based education. Such is caused by additional external pressures and academic reasons. Thus, it is argued that students in ODeL enroll for courses to meet their particular needs, which can be their general interest or in connection to their profession. It was also emphasized that student success or failure does not necessarily equate to the quality of the university or its students but it denotes the risks and challenges of openness and inclusion (Gaskell & Mills, 2014). Similarly, Naidu (2017) noted that one of the challenges faced by an open educational environment is student persistence and/or attrition which is attributed to “the minimalist nature of this form of educational provision and learning goals and aspirations of students”(p. 2).

Although expanding access to online education has been a promising move of educational institutions, literature has shown that it is not sufficient to address equity and quality concerns. Willems and Bossu (2012) critically evaluated OERs and argued that OERs do not always support equity as there have been access issues that continue to emerge from the implementation of OERs. Primary issues in adopting OERs include "the language of instruction, contextualization and localization, technological applications, and access in regional and remote regions around the globe"(p. 186). Other issues on the adoption of OERs include cultural and institutional issues such as intellectual property rights and insufficient financial and support staff provision; the questionable quality as OERs are provided for free; and the one-way collaborative development (Willems & Bossu, 2012).

In efforts to provide an understanding and future directions of open education ecosystems, Zhang et al. (2020) examined several OER and open educational practice (OEP) literature in relation to the accessibility and functional diversity that is aligned with the equity aspect of SDG 4. The authors encourage the researchers, educators, and practitioners to generate studies on the use and effectiveness of OER and OEP, to "develop authoring tools with features to create accessible content", and to "consider different accessibility guidelines while developing their OER platforms, tools, and devices" (p. 16).

Apart from massification, digital inclusion is another concern relevant to the stakeholders of e-learning institutions as it is the means for quality teaching and learning management. Bull and Brown's (2012, as cited in Weller, 2014) study in Australia documented that technology access is lacking for those who really need access to higher education. Nonetheless, access was considered to be a major issue in DE especially for countries struggling with poor infrastructure in terms of internet access and postal services (Gaskell & Mills, 2014). In addition, OERs must be accompanied by actions in providing digital access that goes beyond physical tools, which means digital content and digital literacy must be accounted for as well (Bandalaria, n.d.).

One of the characteristics of digital access was digital content which considers the educational context of students. Contextualization in education, specifically in OERs produced, not only involves the consideration of language to be used but also socio-cultural factors. A study of Mittelmeier et al. (2018) that assessed the applicability of the Open University Learning Design (OULD) of the Open University of the United Kingdom in a diverse

context, arrived at a suggestion to incorporate locally-relevant content which is also seen as an important factor to produce graduates who are productive members of their own society. Correspondingly, it was noted that there is a need for OERs to be translated to local language and be contextualized to local culture and dynamics (UPOU Networks, n.d.).

Solutions to these barriers may include tapping telecommunication companies, academic and government institutions to provide training on digital literacy especially with the marginalized sectors of society; making digital content available in various format by integrating Web Content Accessibility Guidelines or WCAG in online platforms to address the needs of physically-challenged individuals; and policies that can mobilize resources and facilitate implementation of concrete programs to remove the barriers (Bandalaria, n.d.). Another approach to be considered in allowing local dynamics to be inculcated in OERs is the concept of personalization. An article by Aoki (2013) emphasized the importance of a shared database of learners in establishing a personalized learning environment, data mining, and QA or enhancement of an institution. However, the personalization of learners is only possible through appropriate learning analytics and data mining of the big data gathered from the learners.

Lastly, quality in education is also determined by the needs and requirements of various stakeholders. Wagner et al. (2008) indicated that the success of e-learning in higher education is dependent on how the needs and concerns of stakeholder groups are addressed by e-learning institutions. Similarly, Primrose et al. (2013) emphasized that ODL stakeholders are important in the improvement of educational quality. However, in a disruption era, these requirements adjust as the stakeholders adapt to new changes brought by technological advancements. Hence, educational institutions must likewise, keep pace with the technological changes to match the stakeholders' needs and requirements. This will require an extensive stakeholders' consultation as well as adjustments in the QA systems and processes.

SITUATING QUALITY IN ODL

Beyond identifying emerging quality concerns is the struggle to address and integrate it in a QA framework. However, for open educational institutions, such concern is coupled by the lack of a QA framework that is suitable in its context. Majority of the existing QA frameworks are challenged by technological advances (Mabuza, 2014), therefore deemed inappropriate

for open education institutions whose operation is grounded by the affordances of ICTs. In addition, the lack of quality models in Asia was documented by consolidating the most used quality models in DE and e-learning (Ossiannilsson, 2015). This is further supplemented by a regional report conducted by Mathes (2018) under the ICDE claiming that there is a "lack of QA instrument and framework specifically designed for DE and online learning in Asia and existing government QA frameworks for higher education do not specifically address distance and online learning" (p. 8).

Tracing back the concepts and issues of quality and QA gives an overview of the position of ODL and ODeL institutions in quality education. While there are efforts demonstrating quality in online learning, these are often disconnected and not integrated into a holistic framework. However, the need to assure that quality education is being provided, albeit the lack of a QA framework, poses a challenging situation, especially in the presence of the changing education landscape caused by disruptions and growing demand for online learning.

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CHAPTER 2

Access, Equity, and Quality in Open and Distance e-Learning

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ABSTRACT

In recent years, there have been calls to incorporate access and equity into quality assurance (QA) frameworks of higher education institutions. Open and distance learning (ODL) institutions have been at the forefront of developing QA frameworks with openness in mind. This chapter discusses how equity of access can be achieved by ensuring that educational opportunities are not only made available to learners but also prepares them to take advantage of such opportunities.

INTRODUCTION

Ensuring quality in education is considered essential in creating sustainable development (United Nations [UN], n.d.), but how quality education is defined and measured varies. The concept of quality is hard and "impossible to define with any degree of universal agreement" (Fallows & Bhanot, 2005, p. 1). So far, there is no single definition for quality education that is universally accepted. The notions and standards of quality education are evolving (Pigozzi, 2006).

Universities and academic institutions have different ways to measure quality. Ranking appears to be "a simple and easy way to measure and compare performance and productivity" and is claimed to be the ultimate measure of higher education quality; however, global and international rankings are guided by limited indicators, and these may not be appropriate for some conditions and instances as there may be different notions of quality across nations and cultures (Hazelkorn, 2013, Why Rankings section). Some major university rankings, such as the Academic Ranking of World Universities (ARWU) and the Times Higher Education (THE), mainly focus on "quality of teaching and quality of research" but fail to incorporate the "service to society" aspect in their quality indicators (Lalic, 2017, para. 3 & 4). Quality seems "based more on what institutions do, rather than what they are called" (Hazelkorn, 2013, "Because rankings" section).

Quality and excellence are regarded as "the main drivers impacting on and affecting higher education, nationally and globally" (Pursuing Quality section), but "which university is best depends upon who is asking the question, what question is being asked", and why it is being asked, because higher education systems from different societies may have different priorities, thus producing different results depending on what is being measured, and for what purpose (Hazelkorn, 2013, What is Quality section).

Existing side by side with the discourse of quality in education is the discourse of equity of access to education. The world we live in is fast-changing, and there is a greater expectation for higher education to respond responsibly to these challenges. It is no longer enough that higher education is of quality, it has to be accessible as well. Globalization has increased the mobility of goods, people, and ideas. While it has spurred economies for a period of time, its unintended consequences are also more apparent now

more than ever—slow economic growth, deteriorating inequality between the haves and the have nots, environmental degradation, and the list goes on. More than ever, education is being seen as "an important vehicle through which economically and socially marginalized adults and children can be empowered to change their life chances, and obtain the means to participate more fully in their communities" (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2005a, p. 28). As people become more mobile, universities are expected to make their education more accessible to different types of learners in different parts of the country and the world. As traditional industries die and new industries arise, the value of re-skilling and consequently lifelong learning becomes more apparent. As workers move from one part of the country or the world to another, the accreditation of educational qualifications across borders becomes more salient.

Open and distance learning (ODL) institutions have been in the business of providing accessible education in the past several decades. By adopting technologies to connect teachers and learners, ODL institutions have conquered the tyranny of time and distance in learning. Many ODL institutions have also taken advantage of the affordances of e-learning to enhance the quality of their academic offerings. In recent years, many conventional universities have seen the affordances offered by distance education, including blended learning, in reaching more diverse sets of learners. To ensure the quality of programs, ODL institutions have developed their own quality assurance (QA) frameworks, with special emphasis on ensuring that barriers to effective participation of learners in the university are addressed.

While ODL institutions have contributed to making education more accessible to vast numbers of people, there is this pervading yet outmoded notion that access/equity can somehow diminish the quality of higher education. The continuing emphasis by universities on student selectivity in admissions tends to imply that access dilutes quality. In this chapter though, the authors would argue that equity of access and quality in education are not incompatible. Using McCowan's three dimensions of equity, we shall also discuss the implications of adopting equity of access to quality frameworks. We shall elaborate this idea by looking at the experiences of the University of the Philippines Open University (UPOU) in open and distance e-learning (ODeL).

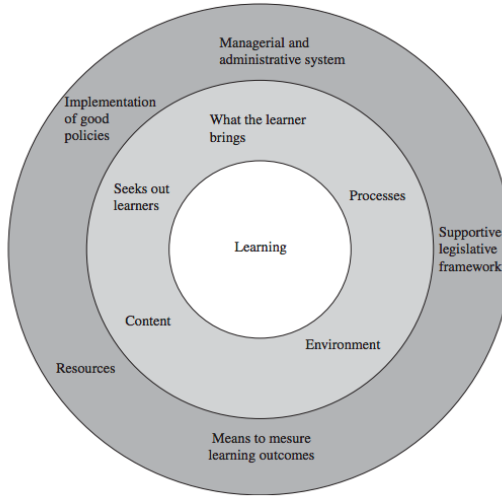
QUALITY FRAMEWORKS IN HIGHER EDUCATION

The relationship between access and quality is not exactly a new idea. Despite varying notions of quality at the level of international debate and action, these three principles tend to be broadly shared: the need for more relevance, for greater equity of access and outcome, and for proper observance of individual rights (UNESCO, 2005b).

UNESCO cited the dimensions of quality as follows: learners, environments, content, processes, and outcomes, founded on "the rights of the whole child, and all children, to survival, protection, development and participation" (UNICEF, 2000, p. 4), managerial and administrative system, implementation of good policies, supportive legislative framework, resources, and means to measure learning outcomes (Pigozzi, 2006) (see Figure 1).

Figure 1

Framework for the quality education (UNESCO, 2006)



UNESCO (1998) has referred to quality in higher education as a "multidimensional concept" that encompasses all academic functions and services ranging from "teaching and academic programmes, research and scholarship, staffing, students, facilities, faculties, and services to the community and the academic environment" (Lumanta & Carascal, 2018, p. 184).

For higher education institutions (HEIs) in the Association of Southeast Asian Nations (ASEAN) context, the ASEAN University Network (AUN) developed the AUN-Quality Assurance (AUN-QA) Framework which focuses on assessment at the programme and institutional levels (ASEAN University Network, 2016, as cited in Lumanta & Carascal, 2018). The third version of programme level assessment constitutes a total of 11 criteria which include: Expected Learning Outcomes; Programme Specification; Programme Structure and Content; Teaching and Learning Approach; Student Assessment; Academic Staff Quality; Support Staff Quality; Student Quality and Support; Facilities and Infrastructure; Quality Enhancement; and Output (AUN, 2015).

The second version of institutional level assessment, on the other hand, constitutes a total of 25 criteria which include the following: Vision, Mission, and Culture; Governance; Leadership and Management; Strategic Management; Policies for Education, Research, and Service; Human Resources Management; Financial and Physical Resources Management; External Relations and Networks; Internal Quality Assurance (IQA) System; Internal and External QA Assessment; IQA Information System; Quality Enhancement; Student Recruitment and Admission; Curriculum Design and Review; Teaching and Learning; Student Assessment; Student Services and Support; Research Management; Intellectual Property Management; Research Collaboration and Partnerships; Community Engagement and Service; Educational Results; Research Results; Service Results; and Financial and Market Results (AUN, 2016).

PROMOTING ACCESS AND EQUITY IN EDUCATION

Access to education has not been a recent pursuit. The urbanization of towns in the Middle Ages and technological innovation (i.e., invention of the printing press) and social and economic ferment of the Renaissance saw the increasing availability of reading materials to the general public (Peter & Deimann, 2013). Compulsory education was initiated in America in the 17th century and in European countries, like France and the United Kingdom, in the late 19th century. In the Philippines, the public school system was born in 1863, with the passage of the Education Reform Act in the Spanish Courts. It was expanded by the Americans with the arrival of the 600 American teachers called the Thomasites during the early days of U.S. colonization.

After experiencing the atrocities committed during the Second World War, the world worked to define human rights and reaffirmed its resolve to respect

the dignity of the human person. The Universal Declaration of Human Rights of 1948 and The International Covenant on Economic, Social and Cultural Rights of 1966 state that "education shall be equally accessible to all on the basis of merit and individual capability", and "access to education and learning outcomes should not be affected by circumstances outside of the control of individuals, such as gender, birthplace, ethnicity, religion, language, income, wealth or disability" (Chien & Huebler, 2018, p. 11).

Since then, accessible education has increasingly become a given—an inalienable right every person is entitled to. In 1990, UNESCO even declared the World Declaration on Education for All that promotes education as a right and discusses the role of education in personal and societal development which incorporates: (1) universalizing access and promoting equity to all ages, genders and groups; (2) focusing on learning and continued participation in organized programmes and completion of certification requirements; (3) broadening the means and scope of basic education; (4) enhancing the environment for learning; and (5) strengthening partnerships at national, regional and local levels. Article 3 of the 1990 World Declaration on Education on universalizing access and promoting equity emphasized that quality education should be provided equally to all ages, genders and groups, to reduce disparities, eliminate gender stereotyping, remove any discrimination in access to learning opportunities, and provide equal access to education (UNESCO, 1990). Also, article 5 of the same declaration, pointed out the need to use a variety of delivery systems and all available instruments and channels of information, communications to convey essential knowledge, and to meet the diverse learning needs of youth and adults (UNESCO, 1990).

With the adoption of the Sustainable Development Goals (SDGs) and the Education 2030 Framework for Action in 2015, access to education "has been placed at the heart of the international development agenda", aiming to "address all forms of exclusion and inequalities in access, participation, and learning outcomes, from early childhood to old age" (Chien & Huebler, 2018, p. 11). The SDGs are the blueprint set by the United Nations General Assembly in 2015 for creating a better and sustainable future for all. Focusing on education, SDG 4 aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030" (UNESCO, n.d., para. 3), to address concerns such as: (1) lack of basic elements of a good quality education which are trained teachers and adequate facilities; and (2) low literacy rate involving adults and women.

The ASEAN, of which the Philippines is an active member, has declared its commitment to support the SDG 4 through the promotion of inclusive and equitable opportunities to quality education for all, school safety against disasters, and promote lifelong learning, pathways, equivalencies, and skills development and the use of information and communications technology (ICT).

In recent years, there have been initiatives to make higher education more accessible to Filipinos. The following laws were passed to support this thrust:

1. Republic Act No. 10931 (Universal Access to Quality Tertiary Education Act, 2017)

   Approved on the 3rd day of August 2017 is the Republic Act No. 10931, which is

   > "an act promoting universal access to quality tertiary education by providing for free tuition and other school fees in state universities and colleges, local universities and colleges and state-run technical-vocational institutions, establishing the tertiary education subsidy and student loan program, strengthening the unified student financial assistance system for tertiary education."

2. Republic Act No. 7277 (Magna Carta for Disabled Persons, 1992)

   RA 7277 is "an act providing for the rehabilitation, self-development, and self-reliance of disabled persons and their integration into the mainstream of society and for other purposes", which was approved on the 24th day of March 1992, includes the rights of disabled persons to access quality education.

3. Commission on Higher Education (CHED) Programs and Projects (CHED, n.d.)

   In the Philippines, CHED has different programs and projects that help in promoting access and equity in higher education including Student Financial Assistance Programs (StuFAPs), QA Projects, Centers of Excellence and Centers of Development (COEs/CODs), Faculty Development Program (FacDev), Expanded Tertiary Education

Equivalency and Accreditation (ETEEAP), Foreign Scholarship and Training Programs (FSTP), Research Development and Extension, National Agriculture and Fisheries Education System (NAFES), and International Collaborations.

4. Republic Act No. 10650 (Open Distance Learning Act, 2014)

   Republic Act No. 10650 is "an act expanding access to educational services by institutionalizing open distance learning in levels of tertiary education."

   Section 9, states that the mode of delivery of open distance learning (ODL) can be in the form of print, audio-visual, face-to-face sessions, and/or electronic/computer technology and virtual classrooms (e-learning) and section 12 includes the role of the UPOU in the implementation of ODL in the Philippines.

ACCESS, EQUITY, AND QUALITY IN OPEN AND DISTANCE LEARNING

Universities have traditionally been the purview of religious organizations and catered mostly the education of the social elites in the West. In the late 19th century, national states began setting up publicly funded universities to make it more accessible to their citizens. While access to universities has increased over centuries, the concept of open access can be traced back historically to the University External System established by the British government to educate its citizens living all over its empire. Formally speaking, the discourse of openness has been formally linked to the establishment of the United Kingdom (UK) Open University in 1965. Since then, many open universities have been established in different parts of the world to make education accessible, especially to people who cannot access it due to constraints posed by geography, time, economic conditions, etc. These universities have attempted to break down these barriers by adopting the philosophy of openness and the methods of distance learning.

ODL is considered "a promising and practical strategy to address the challenge of widening access thus increasing participation in higher education" (Pityana, 2009 as cited by Letseka & Pitsoe, 2012, p. 221). The ODL, through the use of technologies, such as radio, television, print media, and internet, plays an important role in bridging the gap between the teacher and the learners, giving more flexibility, access, and equity in

a learning environment. ODL provides more access to education to more people, who are being denied access to education based on race, religion, language, ethnicity, age, socio-economic status, gender, culture, physical or intellectual capacities, etc. Through ODL, equal access to education is being promoted, thus minimizing inequity relating to gender, income, region, socio-cultural-related, and others.

While open universities have made huge strides in making education more accessible to a vast number of people, questions have been raised about the quality of its programs. To address, ODL institutions have developed their own QA frameworks. For open universities in Asia, there is the Asian Association of Open Universities (AAOU) QA Framework (Belawati & Zuhairi, 2007; Darojat, et al., 2015 as cited in Lumanta & Carascal, 2018). The framework sets out important guidelines for each of the ten strategic issues identified in the distance education system: Policy and Planning; Internal Management; Learners and Learners' Profiles; Infrastructure, Media, and Learning Resources; Learner Assessment and Evaluation; Research and Community Services; Human Resources; Learner Support; Programme Design and Curriculum Development; and Course Design and Development (AAOU, n.d.).

- **Policy and Planning.** In this component, an ODL institution is expected to have well-defined vision and mission, goals, policies, and strategies; a well-designed monitoring and evaluation system; and a clear policy statement of non-discriminatory stakeholder's participation and commitment to learners.
- **Internal Management.** This component looks at the quality, efficiency, and cost-effectiveness in the management and operations of an ODL institution, including its marketing and promotion system, management system for institution and learning, communication system and decision making, student services system, infrastructure and facilities, and internal QA system.
- **Learners and Learners' Profile.** This component emphasizes the need to ensure learners' awareness of an ODL institution's courses and programs; confidentiality of learners' database; sufficiency of information on learners' expectations and profile that may be used in designing learner-centered programs and support services; and provision of learner support services, especially for those who belong to disadvantaged groups.

- **Infrastructure, Media, and Learning Resources.** In this component, an ODL institution is expected to use a variety of media and technologies that are appropriate, accessible, equitable, and practical. Moreover, this component suggests that adequate training and support for those who will use these media and technologies should be provided. An ODL institution should also undertake research and development related to the use of new technology.
- **Learner Assessment and Evaluation.** This component suggests an effective assessment of student learning by looking at an ODL institution's policy on assessment, planning and production of assessment materials, assessment administration, and assessment results processing, dissemination, and utilization.
- **Research and Community Services.** This component focuses on an ODL institution's research support system and community service support system, specifically on the sufficiency of qualified staff members and resources for its research projects and its contribution to the community through the promotion and provision of lifelong education.
- **Human Resources.** In this component, an ODL institution is expected to have sufficient qualified and competent staff members. It should provide a well-defined performance management system and a career development plan for its staff members. Moreover, it should equip its staff members with necessary job skills through training and development programs.
- **Learner Support.** This component acknowledges the importance of providing learner support services, such as tutorial and counseling, at a distance through the use of various forms of technology.
- **Programme Design and Curriculum Development.** In this component, an ODL institution is expected to have specific needs assessment and qualified experts and to consider stakeholders' interests in programme design and curriculum development.
- **Course Design and Development.** This component is concerned with the effectiveness of courses offered by an ODL institution in meeting the learners' needs by looking at its courses' design. It considers the consistency of course content and learning activities and assessments, the clarity of course objectives, the integration of course design with the learning support services, the availability of effective course evaluation system, and the sufficiency of professional and technical support for staff members involved in course design and development.

Currently, the AAOU Accreditation Task Force is developing an accreditation system for open distance education that is targeted to be used in Asian countries and even worldwide. This is an initiative of UPOU Chancellor Dr. Melinda Bandalaria as the AAOU President and Dr. Grace Alfonso as the AAOU Secretary-General from 2017 to 2019. The project aims to ensure the quality of all forms of technology-mediated education as well as to strengthen the image of ODL institutions. The pilot run of the accreditation instrument is planned to be conducted in 2020.

There are a number of parallelisms between the QA system of AAOU and the AUN. Both take on a systems perspective of quality, emphasizing the quality of inputs, throughputs, and outputs to ensure the quality of academic programs. In the AAOU QA framework, there is more emphasis on the learners' profile to ensure that the way teaching and learning is administered to suit the needs and requirements of distance learners.

ICDE QA Initiatives

The International Council for Open and Distance Education (ICDE) is "the leading, global membership organization that works towards bringing accessible, quality education to all through online, open and distance learning" (ICDE, n.d., "Who We Are" section). With almost 200 higher education and research institutions in over 70 countries and almost 20 organizations around the world, the ICDE aims to contribute to the achievement of the SDG 4, which targets to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

The ICDE continually builds global networks by facilitating partnerships and cross-border collaborations through events, specialist networks, projects, and task forces. One of these initiatives is the study that looked at different quality models in online and open education around the globe. From this study, the following recommendations were provided for stakeholders: (1) mainstream e-learning quality into traditional institutional QA; (2) support the contextualization of quality systems; (3) support professional development, in particular through documentation of best practice and exchange of information; (4) communicate and promote general principles; (5) assist institutions in designing a personalized quality management system; (6) address unbundling and the emergence of non-traditional educational providers; (7) address quality issues around credentialization through qualifications frameworks; (8) support knowledge transfer from

ODL to traditional quality systems; (9) support QA audits and benchmarking exercises in the field of online, open, flexible, e-learning and distance education; (10) encourage, facilitate and support research and scholarship in the field of quality; and (11) encourage, facilitate and support implementing QA related to new modes of teaching (Ossiannilsson et al., 2015).

Aside from this first global overview of quality models, the ICDE also created the ICDE Quality Network, in which the Focal Points on Quality (FPQs) were identified to lead and coordinate quality work in their respective regions (Mathes, 2018). This was developed not only to contribute to the SDG 4 but also to support UNESCO's higher education initiatives in online, open and flexible learning. The ICDE also promotes the use of open educational resources (OERs) through its ICDE OER Advocacy Committee, which works to increase global recognition of OER and to provide policy support for the uptake, use, and reuse of OER. Another QA initiative from the ICDE is the creation of the ICDE Working Group, in which members are invited to submit an Expression of Interest for participating in the Working Group on the Present and Future of Alternative Digital Credentials. The ICDE also ensures the enhancement of quality of student support through its ICDE Quality Review Service.

EQUITY OF ACCESS AND QUALITY

Promoting quality, access, and equity can enhance the quality of education. In this section, we shall discuss these three dimensions—availability, accessibility, and horizontality—and illustrate them by citing some initiatives of the UPOU. McCowan (2016) has argued that these dimensions must work together in ensuring fairness of access to higher education by providing sufficient opportunities with quality to all individuals who are interested and prepared regardless of their status and background.

1. Availability

Availability pertains to the sufficiency of opportunities to access quality higher education, which operationally refers to the "overall number of places available, as well as the existence of adequate facilities, teaching staff, and so forth" (McCowan, 2016, p. 657). These opportunities may include an overall number of avenues of learning, as well as facilities, resources, and teaching staff. McCowan (2016) pointed out that the concept of availability is not only about the existence of opportunities; these opportunities should

be adequate for all who are "interested" and "prepared" to access higher education. This means that expansion of availability of opportunities does not have to mean providing "vacancies for 100% of each age cohort"; it means providing sufficient opportunities "for those people who are interested in studying at this level and who have the minimum level of preparation" (McCowan, 2016, p. 657).

McCowan (2016) cited instances where the concept of availability is highlighted. In the case of students who are "inadequately prepared by their previous experiences of schooling", "further free-of-charge preparatory provision should be made available" (p. 659). For those people who may want to study at university at later stages in life, there should be available and easy re-entry points.

Chipere (2017) suggested the use of freely available resources on the World Wide Web, including OERs like open textbooks (Weller, 2014) as a way to ensure that learning opportunities are available to all. Information related to offered courses and programs (such as educational goals), technical assistance, tutors (Marciniak, 2018; Priyogi et al., 2017), physical and digital libraries (Chapman & Henderson, 2010), sufficient finance, resources, and expertise (Altbach et al., 2009; Malik, 2015) are among the so-called "opportunities" that should also be available.

The concept of availability does not only promote sufficiency of courses. Campos et al. (2017) argued that there should be diversity of courses available to students. Moreover, the resources made available to students should be of different types (Marciniak, 2018) to cater to various learning styles.

Let us illustrate the concept of availability by looking at UPOU as an example. UPOU, by virtue of its mission, has sought to provide wider access to quality higher education. Before its establishment in 1995, learners can only access University of the Philippines (UP) education by getting admitted to any of its existing brick and mortar campuses. UPOU's establishment has provided the opportunity for learners from different parts of the country and the world to access UP education.

To enhance the sufficiency of these opportunities, the University adopted ODL as an approach to teaching and learning. As a mode of delivery, ODL enables learners regardless of their location to study at their own pace and

place. The delivery of content, as well as the interaction between and among the teacher and the learners, are mediated through technology. Since the students are not required to be physically present in a classroom, the number of students UPOU can admit is not hampered by availability of classrooms and other physical infrastructure.

Availability is also measured in terms of sufficiency of teaching staff. UPOU currently has 36 full-time regular faculty members, 239 affiliate and adjunct faculty members, and 20 lecturers. From here, we can see that the University has relied on its network of part-time faculty members from other UP constituent universities, other educational institutions, and the professional/ industry sectors. These part-time faculty members are oriented on the basic principles and practice of ODeL before they teach at UPOU.

As previously discussed, availability should also be reflected in the range of courses or programs offered by an educational institution. UPOU currently offers 2 doctoral, 12 master's, 11 diploma, 2 graduate certificate, and 3 undergraduate programs. These degree offerings are in the areas of education, information and communication studies, and management and development studies. In addition to these formal programs, the university also offers 11 non-formal courses in the areas of entrepreneurship, environment and natural resources management, education, and health. Through UPOU's formal academic programs, learners get advanced studies and training in a range of applied professions. Learners who want to acquire practical skills set or individuals who are not yet ready for a full-degree program or those who just want to continue learning and earn certificates and be familiarized with online learning can take any of its fee-based, short non-formal courses or any of its freely available massive open online courses (MOOCs).

UPOU has also opened up learning opportunities through the production and distribution of open educational resources. For almost a decade now, UPOU has shared educational videos, e-books, and audio learning resources via an online repository called the UPOU Networks. Released through a Creative Commons license, these learning resources are for use and sharing or re-distribution of everyone. The resources are also promoted via social media for the awareness of the larger public.

Providing entry points to the educational system to non-traditional learners is also a means of enhancing availability. In addition to expanding its learner base through the provision of formal courses, non-formal or professional

continuing education, MOOCs, and OER, UPOU has also introduced alternative pathways to expand the learning opportunities to its formal academic programs. For example, UPOU instituted the Undergraduate Assessment Test (UgAT) to provide opportunities for other learners who have left the university to pursue tertiary education again. UgAT is one of the filtering mechanisms at UPOU to measure the intellect and competency of an undergraduate applicant who had failed to meet either the minimum number of units in college or general weighted average (GWA), or who neither attended nor finished secondary education in the formal school system but had passed a placement or accreditation and equivalency test such as the Alternative Learning System Accreditation and Equivalency Test and the Philippine Educational Placement Test (PEPT).

UPOU is also providing programs to offer multiple pathways for a more flexible learning experience through the institution of an independent learning track for the Diploma in Science Teaching (DST) program, and the institution of multiple entry and exit degrees. In the independent learning track, students are given the choice to complete their courses anytime within an academic year. In some programs with multiple entrances and exits, students can enter either through a diploma, a master's program, or vice versa. These programs allow learners to exit to a lower degree if they opt to. This flexibility allows learners to choose a program that suits their needs at the present but also the space to make another choice once their circumstances also change. In this way, higher education becomes more responsive to the changing needs of contexts of learners.

The sufficiency of infrastructure for learning is also a major concern in the concept of availability. Since UPOU delivers its courses at a distance, and in particular through online learning, the University has set up technology infrastructure for learning as well as learner support. In terms of instruction, UPOU has put MyPortal, a learning management system powered by Moodle, where students can access their course, do learning activities, and interact with their teacher and co-learners. Student support services are delivered through Online Student Portal (OSP), which serves as the online gateway of UPOU's academic operations through which students can register online, view their final grades, pay online, request for documents, view important announcements, and access the online course sites, e-library resources, online order system for learning materials, and student evaluation of teacher (Secreto & Pamulaklakin, 2013). Physical and digital libraries are also available for all students at UPOU. The Examination Unit of the Office of

Student Affairs (OSA) administers the conduct of examinations through the university online examination system or through the testing centers located in different parts of the country and accredited examination venues (i.e., Philippine consular offices) abroad. Inquiries about UPOU program offerings can be accessed through the UPOU Chatbot, known as *IskOU-Iska*.

2. Accessibility

Provision of opportunities is not enough since learners have different abilities and resources in accessing these opportunities. Accessibility focuses on reduction (if not removal) of barriers that hinder "interested and prepared" but "disadvantaged" individuals from accessing available opportunities. These barriers may include tuition, "competitive exams that disadvantage those with poor quality previous schooling, geographical location of institutions, the opportunity costs of spending years out of employment, as well as a range of other constraints relating to language, culture, and identity" (McCowan, 2016, p. 657). Accessibility is concerned with conditions that support all to access sufficient opportunities.

There are several ways that can enhance accessibility in higher education. The most common way that HEIs use to address financial limitation of willing individuals is by offering scholarship grants and loans, such as the university loan system in England and the Prouni initiative and partial loans in Brazil (McCowan, 2016) as well as loan programs in Mexico and Chile (Altbach et al., 2009). While these initiatives address the financial concern of "interested" individuals, there are also technological barriers that hinder them from accessing higher education through ODeL, which is supposedly a way to bring education closer and accessible to everyone. McGill (2010), as cited in Willems and Bossu (2012), acknowledged that "not all learners have access to computers, or to the internet" and suggested the use of "alternative technologies," which can be mobile learning applications (p. 191).

Debattista (2018) emphasized the importance of providing clear instructions on how to access all elements of the online learning environment. Moreover, resources indicated to fulfill the learning outcomes should be open and accessible to all the learners without unwarranted technical, financial, or administrative barriers. OERs and MOOCs can be a good example of this (Debattista, 2018; Priyogi et al., 2017). The virtual learning environment should also be device-/platform-agnostic as much as possible, so that it

would be accessible over different software platforms, browsers, and computing devices.

Accessibility also pertains to openness of access to education for everyone on a large scale. Pisutova (2012), as cited in Priyogi et al. (2017), categorized open services as open content, open courseware, open educational resources, and open teaching. Openness is concerned with the accessibility of information that students may need to know and consider in accessing services in higher education, including the defined functions of the online teacher and of the persons involved in the development of the program, the assessment criteria of the learning process, and the detailed criteria to be used to grade the students' progress (Marciniak, 2018).

As previously discussed, availability does not guarantee equity of access since learners are not alike in terms of resources, abilities, preparation, etc. To achieve accessibility, certain barriers to education must be addressed. Going back to the case of the UPOU, we have seen how the University has adapted ODL as a means to make its academic offerings available to more people. By using ODL as its means of instruction, UPOU's education is made accessible to learners in different parts of the world, those who cannot study in conventional universities due to family, work, and other commitments, or those who are physically unable to do their studies in a brick and mortar campus. Studying at a distance also allows learners to save on costs associated with living in or travelling to and from a campus.

In a developing country like the Philippines, economic inequality poses a challenge to accessibility to quality education. To address this barrier, the University has partnered with other organizations and agencies to secure scholarship grants to qualified students, in addition to the student loan program provided to students having financial hardships. By using online resources, specifically OERs, to deliver content, the University was able to cut down the cost associated with producing and delivering printed learning materials. The University also acknowledges that the issue of digital divide is another hurdle to contend with, and so UPOU has also worked with private and government institutions in the provision of ICT equipment and connectivity in selected areas.

As previously mentioned, the university has introduced an entrance examination (UgAT) for students who have not traditionally been able to enter UP for not meeting the usual eligibility requirements for admission or transfer to undergraduate programs. Passers of the UgAT are admitted to

the Associate in Arts (AA) program. Graduates of the AA program can apply admission to any of the bachelor's degrees in UPOU or any UP constituent university (subject to the latter's admission procedures) and with most of their course credited towards the bachelor's degree. In recognition that students come from different levels of preparation for university studies, UPOU has also offered free bridging courses in English and Mathematics to those who may need it. Before students are also admitted to the program, they are normally required to take a Distance Education (DE) Readiness Module to orient them to the nature of online learning and also familiarize them with the mechanics of navigating the virtual classroom.

The University has also removed some of the usual admission requirements that tend to discriminate against certain types of learners. For instance, for most graduate programs, a bachelor's degree in any field has become the minimum educational requirement for admission to allow for career shifters to be able to enter their chosen program. In graduate programs where the entrance examination used to be the sole or the major basis for evaluating students, the score for the written test has now become just one of the many criteria considered. The maximum residency rule (or the maximum number of years given to the student to finish the course) has been practically doubled in the University in consideration of the fact that most of its learners are combining their studies with work and other commitments.

The University has also set up a learning support system to address the administrative and learning needs of its students. Aside from the DE Readiness Module that applicants for admissions or newly admitted students need to take, the University has student support staff assigned to address the administrative inquiries of its students. The OSA conducts online and face-to-face orientations to newly admitted students to familiarize them with the university's academic and program policies and procedures. Part of the orientation is the *Grand Sunduan* which is an event where incoming learners can meet current students and even alumni. Past students are also invited to share their experiences on being effective online learners. OSA's Examination Unit administers mock examinations to familiarize students with the use of the Online Examination System before taking their actual online examinations. OSA also arranges the proctored sit-down examinations of students in any of UPOU Learning Hubs, Testing Center, or any accredited venue. Academic advising is provided by the Program Chairs and online psychosocial counseling to students is also accessible through OSA. Students can also email inquiries or talk to a student support staff

based in the Faculty Offices or the Learning Hubs. Aside from its online repository of online publications, the Library can send out books to students via courier.

At present, the University is also working on making its courses and programs accessible to the differently abled. Starting with redesigning the university website to meet Universal Accessibility requirements and initiating the mobile version of MyPortal, UPOU is now working on applying the same to its courses and learner support systems.

3. Horizontality

Horizontality refers to "the characteristic of even prestige and quality across the system" (McCowan, 2016, p. 657). Horizontality does not assume that all educational institutions need not be the same since there are benefits to having diversity in terms of program focus, ethos, research specializations, etc. It simply means that "this diversity should exist in the context of consistently high quality and recognition of diplomas in the broader society" (McCowan, 2016, p. 657). Horizontality does not preclude differentiation among universities in terms of identities and outcomes but warns against providing access to higher education on the basis of merit or ability to contribute, given that merit is often underpinned by socioeconomic privilege. Horizontality does not subscribe to the idea that elitist admission practices are justified if it would lead to the production of high-level knowledge workers needed by society. If higher education is indeed beneficial not only in economic terms but also in the development of the human potential, horizontality argues that higher education should be made accessible to those who really want it (McCowan, 2016).

This concept is applicable in the case of UPOU which is part of the National University of the country and the highest-ranking Philippine university (CNN Philippines, 2020). When it was established twenty-five years ago, it was designed to make "UP quality" education within the reach of learners who cannot normally access it in its existing brick and mortar campuses. The idea was to make UP "more open" to more Filipinos. There was no intention to water down the quality of UP even as it makes its programs available to more people. While it has always been guided by the principles of ODL, UPOU was more focused on distance learning as a means of addressing the barriers of time and geography. As it evolved over the years, UPOU began to incorporate more openness values as it attempts to address other barriers

to education like access to learning resources, different levels of academic preparation, exclusionary admission policies, rigid curricular structures, etc.

As part of the UP System, UPOU has straddled the realm of a traditional university and that of an open university. It still abides by the same quality framework—Internal Academic Assessment and Development System (iAADS)—used by the UP System to evaluate the quality of its academic programs. It also subscribes to the UP vision of producing graduates who have (1) critical and independent thinking; (2) sense of humanity and justice (or the fundamental respect for others as human beings with intrinsic rights); (3) sense of being Filipino; (4) vocation for service, more specifically, for national service; (5) the value of personal integrity and intellectual honesty; (6) sense of professionalism or the rigor and standards applied to work in particular disciplines; and, (7) the value of enlightened spirituality that is not necessarily based on religion in rendering "considered judgments" (University of the Philippines Office of the Vice President for Academic Affairs [UP OVPAA], 2019).

As discussed above, in adopting ODL, UPOU was able to move away from the "competitive allocation of a fixed (and small) number of places" (McCowan, 2016, p. 651). Even as it opens up opportunities to more diverse learners, it has worked to maintain evenness of quality across the UP system. Since learning materials are the first point of study among distance learners, UPOU has established the Quality Circle, a multiple-expert review mechanism to ensure that course packages are not only relevant and up-to-date and pedagogically appropriate in the context of its distance learners. In its initial years, UPOU delivered its course content primarily through stand-alone modular books in print. As it fully moved to online learning by 2007, UPOU adopted a resource-based approach to course materials development. This approach is based on the principle of resource-based learning (RBL) which encourages the use of multiple learning resources in various formats to promote active learning. While traditional assessments (i.e., examinations) are still done in the university, there is also an emphasis on the use of alternative assessments (i.e., assignments, reports, papers, and projects) and online discussion forums, which promotes co-creation of knowledge. While the academic discourse among learners has been done mostly asynchronously, they are done not only to encourage the development of learners' analytical and critical thinking skills but also promote openness to multiple perspectives (Garcia, 2020)—skills and values that have been traditionally associated with UP (Dalisay, 2018).

Recently, there has also been a move to add thesis as a terminal requirement in all the university's graduate programs, to make it more aligned with UP's mission as a research university (UP Charter, 2008). While monthly face-to-face study sessions with students were replaced by online tutorials and discussions when the instruction became fully online, UPOU faculty members have tapped various social media and multimedia technologies to facilitate higher-order learning outcomes through collaborative learning and interactive and multimedia-based learning activities, whether these are done synchronously or asynchronously (UPOU, 2010).

The road to greater horizontality is not easy. The evenness in quality across the system that horizontality advocates for cannot be achieved without putting in accessibility measures. To address economic barriers, UPOU, especially in its early years, actively sought the support of various agencies and individuals for the provision of scholarship grants to disadvantaged students. One such initiative was a scholarship program given to selected public school teachers in Quezon province, which also included the provision of digital literacy training, laptop computers, and internet gadgets to the scholars. Furthermore, the University also needed to beef up its financial assistance programs (i.e., low-interest student loans) for such students.

There is also the issue of technology access. The Philippines' internet connection is reported to be lagging behind its neighbors. Many rural areas in the country still do not have stable internet access. On the other hand, Filipinos are the world's number one social media users in terms of time spent online. There are 76 million active social media users and 72 million mobile social media users (Seavers, 2019). With over 2.3 Overseas Filipino Workers (OFWs) living abroad (Philippine Statistical Authority [PSA], 2020), Filipino families also had to rely on the internet to communicate with their loved ones. While the local internet infrastructure is undergoing further development (iGov Philippines, n.d.), Filipinos' affinity for social media use also indicates that there is a system of technology-mediated communication practices that exist out there. The challenge lies now in how to translate these practices for educational purposes, so more people can be better prepared for an increasingly digital world. Developing competencies in online teaching and learning, as well as setting up web-based student support systems, takes some time. The fact that UPOU took a risk when it adopted a virtual learning environment in 2003 and offered fully online courses in 2007 shows the strategic importance of long-range planning and organizational learning.

While economic and technological factors are usually the commonly cited barriers to access, other so-called "soft" issues also need attention. Digital literacy, for instance, varies across sectoral groups.To contribute to the task of preparing future learners, especially those from disadvantaged groups, UPOU has actively partnered with various organizations in the conduct of digital literacy seminars and workshops for thousands of public school teachers. Bridging courses, like those in College English and Mathematics, have also been offered in recognition that opening up the University doors to more diverse students means addressing their different levels of preparation for higher education. The University has also conducted several seminars on universal accessibility as it prepares to make its courses accessible to people of different abilities.

Despite these efforts, there is still a lot of work to be done. More learners from marginalized groups need to be attracted. There is still a need to tackle other barriers like cultural issues (i.e., predominance of English in learning materials, the lack of Asian/South/Philippine/Indigenous perspectives in courses, gender issues, etc.). Decolonizing content (Lebeloane, 2017) is a huge concern in itself but is crucial if we are to make our academic offerings truly accessible and relevant to more people. Learning support programs for non-traditional learners also needs to be strengthened.

IMPLICATIONS OF EQUITY OF ACCESS TO QUALITY IN OPEN AND DISTANCE e-LEARNING

Worldwide, there is an increasing call for higher education institutions to include fairness and inclusion in their agenda (OECD, 2008; UNESCO, 1990). UNESCO identified ten elements that contribute to quality education which are under two levels—learner and education system levels (Pigozzi, 2006). These elements highlighted the importance of acknowledging the diversity of learners and considering their varying experiences, interests, language, and culture in developing curriculum and learning content as well as in implementing and managing processes across the education system.

In many universities around the world, however, student selectivity has been used as a proxy for quality. It still figures as one of the criteria for university rankings. This idea is based on the systems view of quality that the quality of outcomes (graduates) is dependent on the quality of processes (instruction, programs, and facilities), which in turn is influenced by the quality of inputs (college first-year entrants) (Tan & Decena, 2015). In some cases,

participation of disadvantaged students in higher education is viewed as possibly resulting in "higher attrition rates, poor student performance and progression, and significant resourcing of academic support services" (Whiteford et al., 2013, p. 302). There is also this belief that disadvantaged or nontraditional students take longer to complete and would require more assistance from their teachers to the detriment of their high performing counterparts. Contrary to this traditionally held view, however, is a small but growing body of empirical work indicating that social inclusion measures do not lead to deterioration of academic standards (Brink, 2008; Griffin et al., 2010, as cited in Whiteford et al., 2013; Whitla et al., 2003). Among the initiatives instituted by universities that have been successful at diversifying their students include: outreach and transitional programs and alternative entry points for disadvantaged students entering higher education; provision of well-coordinated support services once they enrol; alternate entry opportunities for disadvantaged students; orientation to social inclusion and the access and equity agenda in the university operations (Whiteford et al., 2013).

Horizontality is concerned not only in promoting equity of access to higher education but also in ensuring quality in the education system. QA frameworks in conventional universities have generally focused on assessing teaching and research based on a set of performance indicators. On the other hand, QA frameworks in open universities have mainly focused on the institution's processes in terms of its policies, management, resources, research, and program and course development. In most open universities, access is already given and so it does not figure much in their QA frameworks.

From the standpoint of horizontality, how should equity of access figure in quality frameworks of higher education in general and ODeL specifically? Opening up universities to a diverse set of learners requires introduction of accessibility measures to ensure that disadvantaged learners are able to actually take advantage of the learning opportunities made available to them and that they do not fall into the cracks of the system. From a QA systems perspective, this may require the inclusion of the following elements:

- Inputs: Diversity of Learners
- Throughput: Accessibility Programs (alternative entry points, learning support programs for non-traditional learners, universal accessibility, etc.)
- Outcomes: Diversity of graduates

As an ODeL institution, UPOU is in the midst of negotiating these multiple goals. In addition to reviewing the current university's academic evaluation system to make it aligned with its openness mandate, it is looking for alternative means (i.e., learning analytics-based as opposed to performance indicators-based QA) to address learning problems in the online environment. UPOU's evolving experience in developing and implementing quality management systems in ODeL can be of use not only to open learning institutions but also to conventional universities that are intent on adopting technology-based education or online learning as a means to creating more learning opportunities for students. As an open university that is part of a university system that is largely residential in nature and culture, UPOU straddles both the world of ODL and conventional higher education. Its experiences can, therefore, be a source of lessons for the rest of the higher education sector as well.

CONCLUSION

Over the centuries, there has been a move towards democratization of higher education. These efforts towards equity of access have been moving on two fronts—among conventional universities and among ODL universities. Conventional universities have been providing financial support and affirmative action to enable students from disadvantaged backgrounds. Alongside these efforts, ODL institutions have been pioneers addressing traditional barriers to higher education like geography, time, and admission requirements that discriminate against certain groups.

In recent years, e-learning has become an important tool for democratizing higher education. It has been adopted both by conventional universities as well as open universities (most of which started with the print modular or broadcast model of distance education) to further make their courses available to more people. But as McCowan (2016) has argued with his three dimensions of equity of access model, making the courses available does not automatically lead to accessibility given the existing unjust social structures that have prevented certain groups of learning from reaching as well as maximizing the benefits of such learning opportunities. As the experience of UPOU and other universities have shown, accessibility measures have to be put in place not only to encourage disadvantaged groups to avail of these learning opportunities but also to perform well in their academic work in the university. Increased openness becomes more of a lip service if it

is not accompanied by such initiatives. On the other hand, the adoption of e-learning as an instructional approach also adds another layer of complexity to the educational system. While it has opened up opportunities for access, it also becomes a barrier for others. Given that the internet infrastructure is a concern that cuts across many sectors, universities need to partner with other organizations in advocating for greater investments in ICT infrastructure particularly in the rural areas.

The idea of horizontality suggests that greater opportunities for disadvantaged or non-traditional learners must not come at a cost of unevenness in the quality of education across the system. For access to be truly equitable, quality has to be maintained within a university and across universities/ educational institutions. While diversity across universities in terms of disciplinary focus or research priorities may exist and even encouraged, we cannot afford to have a system where there are "reputable" universities for the academically prepared and "other" universities for the disadvantaged. Digital literacy, which comes along with e-learning or technology-enhanced instruction, should not be only for the benefit of the few. Accessibility is a concern that must cut across the higher educational system. Not only is diversity of learners socially beneficial for non-traditional learners, but it also benefits everyone since it allows for the sharing of diverse perspectives and experiences that give learners a more well-rounded view of the world they live in, so quality systems have to be maintained across the system.

As educational institutions become more open and/or use e-learning to expand their reach, quality frameworks have to incorporate these principles and values as well. If higher education institutions are indeed committed to the cause of greater accessibility, they should consider educational outcomes, processes, and ultimately inputs that are associated with increased accessibility in their quality frameworks. The adoption of e-learning also augurs well for the use of learning analytics not only to monitor student performance but also to identify challenges faced by non-traditional students, benefits arising from learner diversity, and effects of accessibility measures on learner performance, etc. The key here is to make learning analytics actionable, so it becomes a tool not only for spotting problems and addressing them but also for demonstrating how equity of access could play out in an ODeL environment.

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CHAPTER 3

Universal Accessibility: A Quality Consideration in Open and Distance e-Learning

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ABSTRACT

The advances in information and communication technologies (ICTs) have revolutionized the education landscape worldwide. However, the same developments can pose further barriers to education when they are inappropriately utilized especially in open and distance e-learning (ODeL). A quality ODeL should be accessible to all learners and should cater to all their needs. This is imperative as ODeL-based education is considered as a tool to achieve education for all and for sustainable development. This paper discusses the concept of universal access to education and how such concept can be utilized as a framework for creating quality ODeL. It also presents a case where the accessibility concept has been integrated in the development of learning materials for ODeL courses.

INTRODUCTION

With the threats posed by climate change and other hazards worldwide, access to quality education is important in creating sustainable communities. Noguchi, Guevara, and Yorzu (2015) emphasized that education played a significant role in empowering people to achieve sustainable development. O'Flaherty and Liddy (2018) indicated that education provides all learners the knowledge and skills needed to promote sustainable development. They also emphasized that education must be able to build learners' knowledge and awareness on global issues, develop their critical thinking and analytical skills, and push them to create actions for positive social and political change. On the other hand, the United Nations Educational Scientific and Cultural Organization (UNESCO, 2002a) highlighted the important role of education in empowering learners "to assume responsibility for creating and enjoying a sustainable future." With these goals, education must be made accessible to all, hence, UNESCO's call for education for all and for no one to be left behind.

Meanwhile, the advances in information and communication technologies (ICTs) have recently revolutionized the education landscape. The revolution includes the creation of a more ubiquitous teaching-learning process implemented through online platforms. Online learning, e-learning, or open and distance e-learning (ODeL) does not only transform the world's way of thinking about teaching and learning (Garrison, 2011, as cited in Otto & Becker, 2018) but also makes the learning process more accessible, even for individuals who have been marginalized from the learning opportunities offered by conventional or classroom-based education. Since teaching and learning can take place anywhere at any time, ODeL can take in diverse groups of learners, including those working and physically challenged individuals. Moreover, the proliferation of ubiquitous technologies has opened a thousand possibilities of creating a more individualized online learning environment, which might be beneficial for these students (Lei, 2010).

ICTs can also maximize the interactivity in an ODeL environment. Several research studies (Espasa & Meneses, 2010; Kuo et al., 2013; Mahle, 2011) show that interactivity plays an important role in student satisfaction. For instance, Kuo et al. (2013) reported that interactivity between the learner and instructor predicts student satisfaction, retention, and learner's overall learning experience. When highly satisfied and motivated, ODeL learners

can develop certain skills (e.g. skills to collaborate, critical thinking, lifelong learning, and skills in finding alternatives to solutions of problems) that are key to promoting sustainable development. This highlights the role of ODeL in creating sustainable communities. As Bordbar et al. (2012) has indicated, "more people at all levels must be empowered to develop the values, attitudes, and skills necessary to change behavior in regard to natural resource management" (p. 332). The opportunities offered by ODeL can simply address this need albeit not linearly.

However, the same modality could pose further barriers to education, especially for people with learning disabilities when it is inappropriately developed and implemented. It is against this background that quality has become an important issue in ODeL. A good quality ODeL should be accessible to all learners and able to cater to all their learning needs. It means that "good design for disabled people is a good design for all" (Cooper, 2006, p. 104). In addition, all interactions in the learning environment should support the learning objectives (outcomes) and address the accessibility agenda for both disabled and non-disabled learners. The paper aims to discuss the concept of accessibility in online learning and the ways it can be integrated into the teaching-learning process in an ODeL environment. It will rationalize why accessibility must be considered as a quality assurance (QA) parameter in ODeL. Towards the end, the paper presents an initiative of an ODeL-providing university in the Philippines where accessibility concepts had been incorporated in the development of learning materials.

GLOBAL TRENDS IN ODEL: WHY ACCESSIBILITY MATTERS?

The growth in the number of ODeL-based programs worldwide is unprecedented. With the rapid evolution of ICTs in the past few decades, several institutions are opening degree, non-degree, and short training courses via the Internet. Saeed (2019) reported a steady growth in the "number of colleges and universities that offer online educational opportunities at both the graduate and undergraduate levels" (Institutional online offerings follow enrollment trend section). This has "radically changed the landscape of modern education" where students are "learning in a new and more fluid environment" (Ferrer, 2019, Current Trends in Online Education section). The fluidity of the learning environment has attracted more and more students to enroll in ODeL. According to Saeed (2019), for instance, the number of students who are taking online courses has increased by 39% since 2012. She reported that this change points to a

shifting student preference from the conventional face-to-face education to more increasingly flexible learning opportunities offered by technology-facilitated courses. Palvia et al. (2018) reported a similar observation and explained that such growth of online education is due to the "confluence of new technologies, global adoption of the Internet, and intensifying demand for a workforce trained periodically for the ever-evolving digital economy" (p. 233).

While there is continuing growth in online learning enrollment, there is also a significant increase in the diversity of online learners. Brokop (2008) indicated that, among those learners who access adult education through e-learning, a proportion are those who have learning challenges, seniors, working, and culturally different. Olney et al. (2004) also reported that the number of students with learning disabilities in online learning programs has tripled over the last twenty-five years. Brokop (2008) further indicated that people who have "grown up" with the notion of lifelong learning will continue to access educational opportunities as they age using the Internet. They would add up to the diversity of learners in ODeL.

These trends have highlighted the importance of considering accessibility in the ODeL environment. ODeL design should enhance accessibility to address online learners' diversity and thus, minimize the marginalization of learners. In fact, Brokop (2008) identified the increasingly diverse population in an online education as a reason for adopting a universal design for learning in ODeL to increase the accessibility of learning. Enhanced accessibility is critical, especially for students with learning disabilities because most of these students do not disclose that they have a disability (Roberts, Crittenden, & Crittenden, 2011) due to social stigma, loss of esteem by professors, and fear that future employers will have access to their record (Harrison, 2003). They do not usually request accommodations to help them access course materials that were presented in an inaccessible format. Some may not know that they have a learning disability (O'Hanlon, 2005). As Kent (2015) has indicated, these students can just become invisible online. O'Hanlon (2005) suggested that instructors must know that the student who has chosen to disclose his or her learning disabilities may not be the only one in the classroom. They must understand that there may be others who are silently struggling with the course material without institutional support services (O'Hanlon, 2005). Therefore, ODeL institutions should design their online learning environment in a manner that can accommodate the learning needs of all learners. According to Cooper (2006), this approach not

only levels the playing field for each learner but also makes learning more inclusive and the teaching process more motivating and supportive. Kent (2015) also recommended to put more care and thought in the development of online learning materials to make them accessible to all types of students.

ACCESSIBILITY AS A QUALITY CONSIDERATION IN ODEL

But what does accessibility really mean and what should be made accessible to students? How can it then be related to the quality of ODeL experience? Cooper (2006) argued that accessibility is a multi-contextual term that educators should understand. Otherwise, they would exclude or disadvantage significant numbers of people. In the context of ODeL, Cooper (2006) defines accessibility to refer to *"design qualities* [emphasis added] that endeavor to make online learning available to all by ensuring that the way it is implemented does not create unnecessary barriers however the student may interact with their computer" (p. 103). It means that irrespective of any disability, each learner can interact effectively in the online teaching-learning environment. Hence, accessibility could be considered as an issue of quality rather than an ethical consideration in ODeL. How accessible the teaching-learning process in an ODeL environment is a matter of how good the quality of the instructional design of the teaching-learning process is. As Cooper (2006) has emphasized, a good quality instructional design will not only cater to the learning needs of the disabled but accommodate the learning needs of *all* [emphasis added] learners.

Conventionally, learning disability has been defined as the neurological disorder that creates difficulty in learning among students. Common learning disabilities are dyslexia, dyscalculia, dysgraphia, hearing and visual impairments, and the like. However, the idea of learning disability has been expanded to include more than these neurological disorders when looked at within the e-learning context. Within this context, learning disability can be defined as a "mismatch between the needs of the learner and the education offered" (IMS Global Learning Consortium, 2004, Overview of Accessibility and Meta-data section), which may arise from the context or environment the student is in (Cooper, 2006). Thus, disability can be looked at as an "artefact of the relationship between the learner and the online learning environment" or ODeL delivery system rather than a "personal trait" (Cooper, 2006, p. 104). Within this frame, accessibility can then be re-defined as the ability of the learning environment to accommodate the needs of all learners instead of merely addressing the learning needs of students with a disability in the

traditional sense. In other words, the ODeL environment should be flexible enough to adjust to the needs of all learners. One way to do this is to make available adequate alternatives that have equivalent contents and activities. The learning environment must be flexible in terms of presentation, control methods, access modality, and learner support (Cooper, 2006).

Considering the re-defined concept of accessibility, an important question to ask now would be "What should be made accessible to students?" Traditionally, the answer to this question involves re-adjustments on the technical components of the online teaching-learning environment. This is understandable because the objective for such adjustments is to address the needs of disabled students. However, Cooper (2006) argued that the adjustment should not only focus on meeting the learning needs of the disabled students but should consider the learning needs of a diverse group of online learners. Thus, he proposed that what should be made accessible to online learners is the learning process itself instead of the technicalities of the process. It means that ODeL designers should clearly establish the learning objectives at the outset and ensure that the process of achieving these objectives is inclusive. It is the learning objectives that must be referred to in determining the best way to make it accessible rather than the technology foreseen to be used to implement these objectives. Moreover, this should be considered at different degrees of granularity, i.e. "from the overall learning objectives for the course to the learning objectives for the individual activities being mediated online" (p. 109).

With the shift from the technical consideration to the process of learning, accessibility could now be viewed as a QA issue. Thus, a good quality ODeL provides a teaching and learning process that allows online learners to achieve the stated goals of their online program or course. Although "the concept of quality in online learning is as complex as the reality of online learning itself", a quality online learning should be able to provide strategies and means that can effectively support learners in achieving their learning goals (Butcher & Wilson-Strydom, 2013, p. 3; Oliver, 2005). This would involve high levels of deliberate and planned support for learners.

Making the accessibility issue an important consideration in the quality of ODeL means that it should be addressed even at the conceptualization and specification stage of a component of an online learning (Cooper, 2006). Further, it should not just be discovered once the learning object has been

developed. There are several instances where accessibility experts have been repeatedly invited to evaluate the accessibility of an online component once it is developed. As Cooper (2006) has indicated, this is a frustrating experience to those working in accessibility because they believed that it could have been readily achieved if it had been considered at the outset. Once considered after the object has been developed, it becomes limited because of time, technical, and/or cost constraints. It is thus important that all educators should have an appreciation of the issue and an overview of how learners, especially the disabled students, may select to make effective use of the technology. As Cooper (2006) had emphasized, this general level of knowledge is important to avoid the "assumption of limitation" where educators assume that disabled students cannot effectively perform their learning tasks. "Sometimes they may think this because they have little knowledge of coping strategies adopted by blind people or technological or human support available to them" (p. 110).

ACCESSIBILITY STANDARDS

Legal imperatives around the world imply that learning should be accessible to all. In the Philippines, the government has formulated a law that mandates access to quality education, even by those individuals with physical disabilities. Section 12 of Republic Act 7277, otherwise known as the "Magna Carta for Disabled Persons" states that:

> "the State shall take into consideration the special requirements of disabled persons in the formulation of education policies and programs. The State is also mandated to promote the provision of auxiliary services by academic institutions that will facilitate the learning process of disabled persons" (National Council on Disability Affairs, n.d.).

To consider these provisions and allow for a more accessible learning process, the global community developed guidelines that will ensure accessibility, especially in an online environment. Among the most prominent standards conceptualized are the Web Content Accessibility Guidelines (WCAG), Universal Design for Learning (UDL), and UNESCO's Guidelines on the Inclusion of Learners with Disabilities in Open and Distance Learning.

Web Content Accessibility Guidelines (WCAG)

The WCAG has been developed as a set of guidelines through the World Wide Web Consortium. The development has been collaborated with individuals and organizations from various parts of the globe to provide a single shared standard for web content accessibility. Such standard is expected to provide web content that meets the needs of individuals, organizations, and governments internationally (W3C Web Accessibility Initiative, 2017).

The guidelines were developed to guide primarily web content developers, web authoring tool developers, web accessibility evaluation tool developers, and others. While, related resources could be used to meet the needs of other people, including policymakers, managers, researchers, and others (W3C Web Accessibility Initiative, 2017).

Last year, the Department of Information and Communication Technology released the Memorandum Circular No. 2017–004 prescribing the W3C WCAG 2.0 as the Philippine standard for making web content more accessible to a wider range of people, including persons with disabilities.

Universal Design for Learning

Another approach that ensures wider accessibility of online learning is the Universal Design for Learning or UDL. According to the Center for Applied Special Technology or CAST (2018), UDL is a framework that can be used to "improve and optimize teaching and learning for all people based on scientific insights into how humans learn" (para. 1). It can be used to design flexible and inclusive curricula (goals, methods, materials, and assessments) that are responsive to the individual needs of the learners. The framework offers a set of concrete guidelines applicable to various disciplines or domains to ensure accessibility and participation of all learners in meaningful and challenging learning opportunities (CAST, 2018).

UDL ensures the flexibility and accessibility of the ways information is presented and on the ways students demonstrate their knowledge and skills and engage in the process of learning (Grand Valley State University, 2019). This can be exemplified on how course content is presented, peer interaction is conducted, and the like. The framework also aims to provide appropriate accommodations and supports that could reduce the barriers to learning while maintaining high achievement of the expectations of all learners (Grand Valley State University, 2019).

As applied in an ODeL context, the UDL framework could create a learning environment where students with disabilities can access their courses without adaptation (Dell, Dell, & Blackwell, 2015). It also ensures that course works are made available in a variety of formats for all learners. According to CAST (2018), this could be achieved by:

1. providing multiple means of representation in terms of perception, language, expressions, symbols, and comprehension to support learning through recognition networks;
2. providing multiple means of action and expression including physical action, expression and communication, and executive function to support learning through strategic networks; and,
3. providing multiple means of engagement including recruiting interest, sustaining effort and persistence, and self-regulation to support learning through affective networks.

UNESCO's Guidelines on the Inclusion of Learners with Disabilities in Open and Distance Learning

The guidelines on the inclusion of learners with disabilities in ODL were grounded on the World Declaration on Education for All (EFA), which was adopted in Thailand in 1990. The declaration sets out an overall vision of universalizing access to education and promoting equity (UNESCO, 2009). As such, barriers in accessing educational opportunities and resources needed to overcome them were identified proactively. Inclusion in this framework has been considered as a process of responding to the diversity of needs of all learners "through increasing participation in learning, cultures and communities, and reducing and eliminating exclusion within and from education" (UNESCO, 2009, pp. 8–9). Such process involves the transformation of content, approaches, structures, and strategies so that no learner regardless of age and cultural background would be left behind in the teaching-learning process.

Applied in an ODL, the guidelines aim to "provide an overview for governments, institutions, instructors and instructional designers, along with QA and qualifications recognition bodies, when developing ODL platforms, processes, courses, examination and others with a view of incorporating the needs of all users" (UNESCO, 2016, p. 7). The guidelines can be potentially used by ODL institutions in developing new standard procedures. In the context of educational institutions, these sets of guidelines suggest

addressing the following areas: enrolment, needs assessment, strategy and internal disability policy, content, integration of open solutions, removal of barriers, training, efficacy, support services and compliance (UNESCO, 2016).

In reference to the quality of online learning, the guidelines require that the teaching and learning processes should be able to support the learning tools and content "required by all human beings to be able to survive, develop their full capacities, live and work in dignity, participate fully in the development, improve the quality of their lives, make informed decisions, and continue learning" (UNESCO, 2009, p. 10).

INITIATIVE AND CHALLENGES

Established in 1995, the University of the Philippines Open University (UPOU) is one of the constituent universities of the University of the Philippines (UP), the country's premier university. The nation's most comprehensive distance education institution, UPOU aims to provide access to quality higher education through the Distance Education (DE) mode of teaching and learning. DE is "a mode of learning in which students and teachers are physically separated from each other, students undertake guided independent study of specially-designed learning materials in various media, and two-way communication exists between the teacher and students" (Alfonso, 2014, p. 3).

Initially, the university taught through stand-alone modules in print. Throughout the years following the rapid growth of the Internet and ICT, UPOU has adopted online teaching and learning and is now continually pushing forward in providing quality higher education through ODeL, a worldview that incorporates the values of open learning, distance education and e-learning and their intermingling to promote social transformation. Open learning, consequently, is "a vision of an educational system accessible to everyone with minimal restrictions. It emphasizes the flexibility of the system to eradicate problems caused by barriers like age, geographical location, time constraints, and economic situation" (Alfonso, 2014, p. 3).

Envisioned as a leader in teaching and learning in the digital age, UPOU is committed to its mission of providing wider access to quality higher education. In order to respond to the needs of its learners, UPOU continues to innovate and improve the quality of teaching and learning through time. One of the initiatives launched by the University is the Universal and Inclusive

Accessibility Program under the @ccess flagship program set for 2016–2019. The program encompasses all aspects of academic and administrative functions and services of UPOU. It is guided by the UNESCO's Guidelines on the Inclusion of Learners with Disabilities in Open and Distance Learning.

Responding to the University's thrust and recognizing the importance of making online learning accessible to all learners, the Faculty of Education (FEd) implemented an Academic Program Improvement (API)-funded project, which is focused on the development of course packages with enhanced accessibility and mobility. The project aims to create course packages that are accessible and responsive to the learning needs of the learners. The project identified about 18 courses to be re-developed from the Faculty's various degree programs.

The process of course package development in the University involves the creation of a "quality circle." Prior to the implementation of the project, the "quality circle" consists of the content expert, external reader, instructional designer, language editor, and multimedia specialist. Bandalaria (2007) identified and described the tasks of each member of the quality circle as follows: (1) Content Expert, a subject matter expert who is responsible for writing the content of the course package, which consists of the lesson modules, course guides, assessment, and rubrics; (2) Subject Matter, also a subject matter expert who peer reviews the soundness of the course and its contents; (3) Instructional Designer who ensures the appropriateness of the chunking of lessons and the logical arrangement of the program/course goals, contents, and assessments into the learning process; (4) Multimedia Specialist who recommends the appropriate media for the delivery of content and the implementation of the teaching-learning process; and, (5) Language Editor who fixes any grammatical, punctuation, and spelling errors to enhance the material's readability and conciseness and who ensures that the course package is consistent with the University's style guide.

Under the API-funded project, two additional members, an accessibility expert and a gender specialist, were added into the "quality circle" to integrate the principles and guidelines of accessibility, consistent with the developments in the course package development process that the university has gradually implemented through the Office of Academic Support and Instructional Services (OASIS). An accessibility expert is expected to ensure the conformity of the course packages to international guidelines for accessibility (i.e., WCAG and UNESCO's guidelines on the inclusion of learners with disabilities in

open and distance learning) while a gender specialist reviews or comments on the gender sensitivity (e.g., gender sensitivity of language, images, and/or learning activities used) of the materials.

The integration of the principles of accessibility into the course package development process involves the orientation and re-orientation of members of the "quality circle" on the various elements and guidelines of accessibility. Hence, the project organized a three-day seminar-workshop involving an expert of accessibility who is a senior educational developer from the College of Law, Australia National University (ANU) to orient potential members of the "quality circle" on the guidelines of producing course packages with enhanced accessibility and mobility. The expert discussed the process of integrating universal accessibility into the development of course packages. There were no specific accessibility needs being targeted in the integration. However, the integration was guided by the stipulations of the WCAG and the expert's experience of such integration in their institution.

The process of creating the enhanced accessibility course packages started with the identification of the "quality circle" members. Once identified, the content expert or course writers then initiated the writing process. Close communication with them was implemented while a strong support system was developed. Research assistants were hired to closely monitor the progress of the development process, provide some clerical support such as preliminary curating open educational resources (OERs) on the internet, and document the entire process of development. The University pushed for the use of OERs in its course material development (Gervacio, Cruz, & delos Reyes, 2018). OERs are educational materials that are becoming more popular among online course designers (UNESCO, 2014) because of their public domain characteristic. According to UNESCO (2002b), they can be freely copied, used, adapted, and re-shared since they are introduced with an open license.

Once the first draft of the course package was developed, the content expert submitted it to the project team, which in turn, submitted it to the course reader for review. All comments and suggested revisions of the package were sent back to the content expert, which in turn, revised the materials and incorporated into the revised version the suggestions of the reader. They would then submit the revised version to the project team, who in turn, submitted the document to the instructional designer, and later to the accessibility expert and gender specialist, who will ensure that all

components of the course package integrated the elements of accessibility and are gender-sensitive, respectively.

The project team created a set of project monitoring sheets to easily track the progress of the course package development. Although the project has involved mostly the Faculty's core and affiliate faculty members, it was confronted with several challenges. An assessment study conducted by the project team determined the level of integration of accessibility principles by course writers and identified the following challenges:

1. **Limited Open Educational Resources**: There is difficulty in finding and using OERs appropriate for the course being developed. Since the development process involved the use of OERs, course writers had trouble finding resources with enhanced accessibility for the content that they are developing. Consequently, course writers were constrained to use resources that are less accessible or inaccessible according to the WCAG guidelines. This has caused a delay in the submission of the initial draft for review and evaluation for accessibility and gender sensitivity.
2. **Quick Turn-over of Accessible Resources**: If they can find resources with enhanced accessibility, they are also affected by the quick turn over of these materials on the Internet. In a short span of time, the materials that the course writers have included in the package are no longer available; thus, they must find an alternative for those materials.
3. **Lack of Time**: Since most of the course writers are also involved in content delivery and have also teaching tasks in their home universities, they have difficulty finding time to integrate accessibility features in the course that they developed. With the enormous considerations stipulated in the WCAG guidelines (e.g., putting supplemental content when the material requires advanced reading ability, adding mechanisms for identifying specific pronunciation of words, etc.) and the limited time available for the development, course writers limited their integration into some easy-to-do considerations (e.g., repeating header rows in a table, color contrast when adding images in the material, etc.); if not, they would just skip accessibility considerations from the writing process.
4. **Lack of Accessibility Experts**: There is a lack of accessibility experts who can evaluate the developed course packages. It has slowed

down the process of development. The accessibility expert appointed for the project was overwhelmed with the volume of packages that needed to be evaluated.

Although course writers indicated that they used WCAG in selecting resources, and developing and formatting their course packages, few of them can confidently claim that they developed their course packages with accessibility features. Most of the time, the course writers looked into the following easy-to-do considerations only as the accessibility features of the course packages they developed: (1) videos should have subtitles; (2) materials should have a good color contrast; (3) HTML version of the materials/study guide must be provided; and (4) learning materials are multimodal and downloadable.

SYNTHESIS AND RECOMMENDATIONS

The concern of accessibility in the teaching-learning process has grown significantly with the rising global interest in online learning. With the evolving construction of online learning coupled with advances in ICTs, the concept of accessibility has shifted from being focused on the inclusion of learners with disabilities into the teaching and learning process to meeting the diverse learning needs of all learners. International guidelines such as the WCAG, UDL, and UNESCO's guidelines for the inclusion of learners with disabilities in open and distance learning have been formulated to provide the standards for the development of online learning materials and teaching-learning environments. Hence, accessibility has become an important quality consideration for online learning. Although the concept of quality in an online learning context is as complex as the reality of online learning itself, a quality online learning is expected to effectively support learners to achieve their learning goals. This would involve high levels of deliberate and planned support for learners, which may commence at the development of the course packages to be utilized in the teaching-learning process.

However, the integration of accessibility features in the course package development may not be without any challenges as experienced by the Faculty of Education, UPOU. Although the guidelines for integrating accessibility into the process of course materials development are readily available on the Internet, the process of integration itself may be met with difficulties that need to be addressed if accessibility will be utilized to gauge the quality of the online learning experience.

Therefore, any online learning-providing institution such as UPOU should consider developing their own OERs if it must enhance the process of integrating accessibility into its course material development process. OERs could be in video or podcast formats, which may contain accessibility features. In addition, members of the "quality circle" may be given ample time for developing the course packages. For instance, they can be given a reduced load for other tasks such as teaching and administration. Moreover, accessibility capacity building may be part of the course package development process. A series of training in accessibility can be conducted to produce individuals who can contribute to the accessibility component of the course packages to be developed. In doing so, it would not only improve the quality of the online learning or ODeL experience of the learners but also empower them to achieve their learning goals. The training could include enhancing their awareness of the existing technologies that can facilitate and check the integration of accessibility into the materials. Technologies such as WAVE, which provides a visual representation of the issues of accessibility within the page, VISOLVE, which transforms colors of the computer display into the discriminable colors, and Reading Effectiveness, which helps to find out if a draft manuscript is at the right Grade Reading Level for the intended audience can be utilized in the evaluation of the accessibility of the materials and course sites. Other tools listed in the Web Accessibility Evaluation Tools List (https://www.w3.org/WAI/ER/tools/) can also be used for certain purposes of checking the accessibility of the materials.

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CHAPTER 4

QAlidad as Overarching Flagship Program of UP Open University: From Framework to Culture

Melinda dP. Bandalaria

ABSTRACT

At the center of the University of the Philippines Open University's (UPOU) strategic plan is its flagship program *QAlidad*, which focuses on quality pillars in all aspects of the university's operations in teaching, research, public service, and governance. In this chapter, the various quality assurance (QA) initiatives under this flagship program are described as part of the quality thrust of the university. The approach to quality assurance in education has been emphasized as a process that is iterative from a framework that is evolving to the integration of the quality pillars to regular operations, thus becoming an organizational culture.

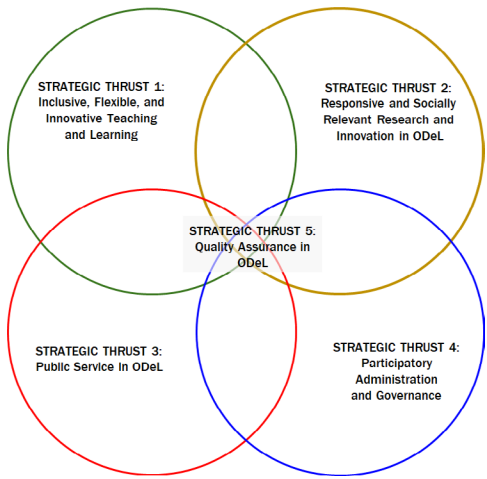
INTRODUCTION

Quality assurance (QA), in various literatures, ensures that all processes in higher education achieve the prescribed quality standards. By undergoing QA, higher education institutions (HEIs) assure their stakeholders of their first-rate products and services. As a pioneer open and distance e-learning (ODeL) institution in the Philippines, University of the Philippines Open University (UPOU) crafted its strategic plan for 2016-2019 committed to ensuring quality in all of its operations—teaching and learning, research and extension, public service, and governance.

UPOU began its strategic planning in 2016 through a participatory process involving all its constituents. With an overall vision of *Pamantasang Bukas para sa Magandang Bukas,* the strategic plan constitutes five strategic thrusts and 12 flagship programs. These are 1) Strategic Thrust 1*:* Inclusive, Flexible, and Innovative Teaching and Learning; 2) Strategic Thrust 2: Responsive and Socially Relevant Research and Innovation in ODeL; 3) Strategic Thrust 3: Public Service in ODeL; 4) Strategic Thrust 4: Participatory Administration and Governance; and, 5) Strategic Thrust 5: Quality Assurance in ODeL (Figure 1). Twelve (12) flagship programs ensure the attainment of the goals of the strategic thrusts. At the core of its strategic plan is UPOU's flagship program QAlidad which pervades and inculcates quality culture in all of the university's operations.

Figure 1

Five strategic thrusts



Strategic Thrust 1: Inclusive, Flexible, and Innovative Teaching and Learning

Strategic Thrust 1 focuses on teaching and learning that reaches out to all sectors in education, ensures no one is left behind and learners' capabilities are fully developed, and ensures flexible learning through responsive education in pace, place, and mode of delivery. Three (3) flagship programs are aimed at achieving the stated objectives. Flagship Program @ccess ensures the accessibility of UPOU's formal programs that cater to a diverse student population, Flagship Program *Flexible Learning Experience (FLEx)* provides multiple pathways through a UPOU education, and Flagship Program *Innovative Teaching and Learning (InnovaTE)* promotes and adopts/adapts innovative technology-supported teaching methodologies in support of effective learning.

Strategic Thrust 2: Responsive and Socially Relevant Research and Innovation in ODeL

To strengthen UPOU's role as a research university, Strategic Thrust 2 aims to contribute to the theoretical foundations of ODeL, promote effective ODeL practice, respond and relate to the needs of sectors crucial to social development, and promote multiple epistemological and methodological orientations to advance knowledge in the disciplines. Flagship Program *Saliksik,* the sole flagship program under this strategic thrust, intends to improve ODeL research productivity and impact and provide significant contributions to research and innovation in priority social development fields through state-of-the-art studies in ODeL, leading-edge policy and applied research in ODeL and priority disciplines, high-impact academic publications, and research-based ODeL policy and practice within and beyond UPOU.

Strategic Thrust 3: Public Service in ODeL

Strategic Thrust 3 constitutes UPOU's public service that is aimed towards a broad range of continuing professional education programs, leadership in the promotion of critical digital literacy, promotion of public discussion of critical social issues and participation in social mobilization, and technical assistance to higher education institutions, local governments, people's organizations, and civil society in ODeL and social development research and innovation.

Flagship programs under this strategic thrust include Flagship Program *openUP* to broaden access to continuing education and lifelong learning through the design and delivery of open online courses; Flagship Program *PLAZA* to take a leadership role in the promotion of critical digital literacy nationwide; Flagship Program *UPOU Connected* to promote public discussion of critical social issues, participate in social mobilization, and disseminate research results and knowledge products; and Flagship Program *Mission RA10650* to fulfill UPOU's role as specified in Republic Act 10650.

Strategic Thrust 4: Participatory Administration and Governance

Strategic Thrust 4 highlights administration and governance that promotes sustainable, effective, and efficient operation, participatory governance, and wellness. Flagship programs *Care UPOU* and *TAYO* ensure sustainable operations and promote participatory governance and health and wellness within UPOU, respectively.

Strategic Thrust 5: Quality Assurance in ODeL

Strategic Thrust 5 supports UPOU's mission and vision to provide a quality education through QA in ODeL. It includes instilling QA culture and establishing an effective QA system for ODeL. The *QAlidad* is the sole flagship program under Strategic Thrust 5. This flagship program is strategically placed at the center of UPOU's strategic plan to permeate all of the university's operations.

QALIDAD FLAGSHIP PROGRAM

Initiatives under this flagship program are expected to contribute towards the continuous improvement of teaching, research, public service, and governance, keeping in mind that it is the learner's learning experience that is at the core of the university's initiatives and operations. It aims to establish a QA culture and to promote and model QA in ODeL. Its components include the development of a QA framework, appropriate QA approach, and system implementation.

The development of a UPOU QA Framework highlights the QA thrust of the University. Given UPOU's unique position as an ODeL institution grounded by its philosophy of openness, equity, and accessibility, existing QA Frameworks were deemed inappropriate. Hence, UPOU embarked on developing a QA Framework not only for the university but for other open university

institutions as well. Activities under the QA approach component involve codification of the academic process. This includes roundtable discussions on assessment, a forum on the UP's internal academic assessment system, meetings on several academic issues (i.e., faculty development, research productivity), QA projects, and curricular programs and course offerings, and staff development training. These codified academic processes will be integrated into the framework. UPOU's leadership in national and international organizations, as well as awards and recognitions in various presentations, publications, and public service highlight its QA System Implementation.

UPOU'S QA INITIATIVES

UPOU conducted and continues to undertake various QA research and initiatives to define and redefine pillars and indicators of quality as well as the process to achieve the set standard for these indicators. Backed by ongoing research using desk review on QA, survey among experts and practitioners, and focus group discussions among UPOU staff, UPOU's QA framework continues to evolve. The quality areas include: (1) academic programs (consisting of program level, course materials or packages, and even open education resources [OERs] or the learning materials that the university is producing), (2) the research that the university is conducting, (3) learner support, (4) faculty and staff development, and (5) public service.

The public service aspect emphasizes the university's social responsibility. Under this aspect are (1) stakeholders welfare (including staff, students, and even suppliers, as well as internal stakeholders, for the university to monitor the quality of its operations), (2) Sustainable Development Goals (SDGs), and (3) Triple Bottom Line (TBL), which consists of the people, the planet, and the profit or the sustainability. The term "profit" may connote anchor with the industry. However, looking at it from the education perspective, one can call it "the social profit" or "the transformation".

Table 1 shows the institutional QA initiatives, which will be expounded on in the succeeding chapters, as part of UPOU's strategic plan. Quality in Course Development and Production of Learning Resources in Multimedia Format of the Office of Academic Support and Instructional Services (OASIS) and Multimedia Center (MC), respectively, are aligned with Strategic Thrust 1 and its flagship program @ccess, FLeX, and InnoVATE. These QA Processes incorporate the component of universal accessibility of @ccess which is

reflected as the indicators of a quality course package and course material. UPOU research practices are classified under the performance indicator "research-based ODeL policy and practice within and beyond UPOU" of Saliksik (Strategic Thrust 2). Learner support covers the student support system component of @ccess (Strategic Thrust 1) which includes the UPOU Chatbot.

Strategic Thrust 3 covers all initiatives for public service. UPOU's non-formal courses under its Continuing Education Programs (CEP) promote a system of continuing education and lifelong learning, which is part of the flagship program OpenUP. Several UPOU public service initiatives under OpenUP, (i.e., Massive Open Online Courses [MOOCs] and UPOU Commons) are also being redefined and aligned with access, equity, inclusiveness, and social commitment. The accreditation system and QA-based instrument which are initiatives of UPOU during its presidency to the Asian Association of Open Universities also contribute to its Mission 10650 under the ODeL program accreditation system.

Table 1

UPOU institutional initiatives vis-a-vis UPOU strategic plan 2016–2019

QA Pillar	Initiatives and Practices	Flagship Program
Academic Programs	• Quality Concerns in the Development of Course Modules in ODeL • Producing Quality Learning Resources in Multimedia Formats	• QAlidad • @ccess • InnoVATE
Research	• Towards a Quality Culture of Research and Publication at UPOU	• QAlidad • *Saliksik*
Learner Support	• UPOU's Chatbot: Toward Quality Information Services	• QAlidad • @ccess
Public Service	• Quality in Continuing Education • Benchmarking for Quality of UPOU MOOCs • Redefining Quality Public Service through UPOU's OpenUP • Developing the AAOU Accreditation System for Technology-enhanced Higher Education in the Age of Technological Disruptions • Identifying Criteria for an Accreditation Instrument for Technology-driven Higher Education	• QAlidad • OpenUP • Mission RA 10650

AN EVOLVING QA FRAMEWORK

QA, in UPOU's strategic plan, encompasses the trifunction of the university—teaching, research, and public service—including its administrative systems. Quality in one function needs to be dovetailed in another function.

The development of a QA framework is iterative. It involves documenting best practices on the ground and elevating it to the university level, and at times, designing QA mechanisms from the top and fine-tuning it at the lower levels of the university.

Given the uniqueness of UPOU as a hybrid organization (open university in a residential university system), it needed to develop a QA framework that is unique to its structure and culture. This means that while it is important to benchmark with other universities to ensure accreditation and recognition of qualifications across boundaries, QA is meaningless if it is oblivious to the context of an educational institution.

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CHAPTER 5

Quality Concerns in the Development of Course Modules in ODeL

Ana Katrina T. Marcial

ABSTRACT

The Office of the Academic Support and Instructional Services (OASIS) primarily aims to assist the Office of the Vice Chancellor for Academic Affairs (OVCAA) and the three Faculties (or Faculties of Studies) in the development and assessment of the resource-based course packages (RBCPs) used in the formal and nonformal programs of the university. The complete course development process serves as one reflection of the university's attempts and practices at ensuring quality at the course level. This chapter details the changes and interpretations made by the university to clarify further what it means to design and use quality materials following a quality assurance (QA) system in a fully online teaching and learning environment.

COURSE DESIGN IN THE UNIVERSITY

Back when the University of the Philippines Open University (UPOU) was developing and producing print-based course materials, the course team approach was primarily adopted, with the team members as follows: course developer (course writer), reader, instructional designer, media specialist, (language) editor, and even an encoder (Garcia, 2014; University of the Philippines Board of Regents [UP BOR], 2001). Doing so had ensured that the course materials were of good quality, consistent with the standards of quality and excellence of the University of the Philippines (UP) system, on one end, and of the leading open universities around the globe, on the other. Variations to this approach were also adopted such as developing the materials through a series of workshops with the course developer and support staff and or developing modules as wrap around texts whenever published textbooks were already identified as the primary resource materials (UP BOR, 1995). It can be safely assumed, even then, that the preparation of course materials has been one of the university's earlier manifestations of ensuring quality and observing quality standards.

When the UPOU pushed for offering courses fully online, the resource-based approach was adopted in developing the courses although the notion of working with a team to ensure the quality of the course materials remained, albeit with slight adjustments. Much like any other developments in the university's growth, both as a constituent university of UP and as a premier open and distance e-learning (ODeL) institution in the country, the university also adjusted its instructional design (ID) methods as reflected in its course development process and guidelines. More specifically, the Office of the Academic Support and Instructional Services (OASIS), the unit mandated to assist the course developers of the Faculties, came up with an updated version of the process and a course development team in line with the resource-based approach.

Generally, the output expected from a course developer is a complete resource-based course package (RBCP) which consisted of the course modules, or more suitably termed as module study guides, the course guide, and other relevant guides such as the assignment guide (or a form of documented guidelines in doing the major requirements of a course), final exam guide, and even a guide for the preparation of the course site where a variety of resources will be uploaded or incorporated as embedded links (OASIS, 2014). The course modules may still be considered wrap

around texts in the sense that they come in the form of study guides where carefully curated resources with annotations, instructions, discussions, as well as learning tasks and assessments are coherently presented. These components of the RBCP are still reviewed to ensure quality. An assumption, and perhaps expectation, under the resource-based approach is that students engage in guided independent study through the course resources and activities made available in MyPortal, the university's Modular Object-Oriented Dynamic Learning Environment (Moodle)-based virtual learning environment (VLE). The focus of the course developers has then evolved to ensuring that the course materials will enable and encourage the students to do just that. The shift, however, has come with its fair share of challenges, especially in relation to the roles and implementing guidelines ensuring and maintaining the quality of the university's course materials in a fully online context.

This paper details the changes and interpretations made by the university to clarify further what it means to design, develop, and use materials in a fully online teaching and learning environment. Specifically, this paper focuses on describing how the ID process was operationalized and on identifying the strengths and weaknesses of the university's course development or course module preparation in terms of the steps in the course development process, roles, and guidelines to elucidate on the concept of quality course materials in ODeL.

INSTRUCTIONAL DESIGN AT THE COURSE LEVEL

Stages in Course Design Models

Numerous studies have established that different ID models can be adopted to develop courses and prepare course materials both in a traditional classroom and in the ODeL setting, depending on the orientation an institution wishes to focus on (Caplan & Graham, 2008; Dousay, 2018; Holsombach-Ebner, 2013; Göksu, Özcan, Çakir, & Göktas, 2017; Gustafson & Branch, 2002). In the case of ODeL courses and from a product-based orientation, the generic five-phase model adopted by instructional designers and training developers known as the ADDIE model: (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation proves to be one of the most well-known (Bates, 2019; Buchanan, 2019; Gustafson & Branch, 2002; Piskurich, 2006). Dick and Carey's systems-based ID model, on the other hand, serves as a more specific version and "features the following phases: (1) identifying

instructional goals, (2) conducting instructional analysis, (3) identifying entry behaviors and learner characteristics, (4) writing performance objectives, (5) developing criterion referenced tests or other assessments, (6) developing instructional strategies, (7) developing and selecting instructional materials, (8), developing and conducting formative evaluation, and (9) developing and conducting summative evaluation," with an additional phase dedicated to the revision of instructional methods when deem necessary (Dick, Carey, & Carey, 2015; Siemens, 2002). An alternative, especially for large-scale programs, is the cyclical Kemp model (Morrison, Ross, Kemp, & Kalman, 2010; Siemens, 2002) with its interdependent stages and nine design elements that may be addressed simultaneously, namely: (1) determining specific goals and instructional issues, (2) identifying the characteristics and needs of the learners, (3) clarifying course content in relation to the goals (4) defining in learning outcomes, (5) ensuring logical sequence of content, (6) designing instructional strategies, (7) planning the appropriate instructional message and mode of delivery, (8) developing the evaluation instruments to assess learners' progress, and (9) choosing appropriate resources that will support the teaching and learning activities. Despite moving further away from the traditional notion of ID being always linear with the idea that the processes in these models be an iterative one, subscribing to any of the models can still be too time-consuming and costly (Arinto, 2014; Bates, 2019; Buchanan, 2019; Sun & Chen, 2016; Thiagi, 2010; Tompkins, 2007; White, 2000).

In the case of developing the course materials at the UPOU, a clearer ID approach was adopted in the form of Rapid Instructional Design (RID) model, with six basic steps, to suit the fully online mode and in consideration of the load of the UPOU course developer who most likely serves as the first faculty-in-charge (FIC) to teach the course (Arinto, 2014). Compared with a more traditional ID process, RID was a more streamlined approach (Figure 1) although the basic aspects to consider are still evident in the course development steps as well as in the review stages. Additionally, UPOU emphasized the need to select and customize content and to design learning activities around this content as the two crucial steps in developing the module study guides to complete the UPOU RBCP (Figure 2) based on the assumption that a general learner profile is already available, at the very least, at the program level and that the course-level learning outcomes or objectives, approved from the program level up to the UP BOR, do not necessarily change during course delivery.

Figure 1

Rapid instructional design steps

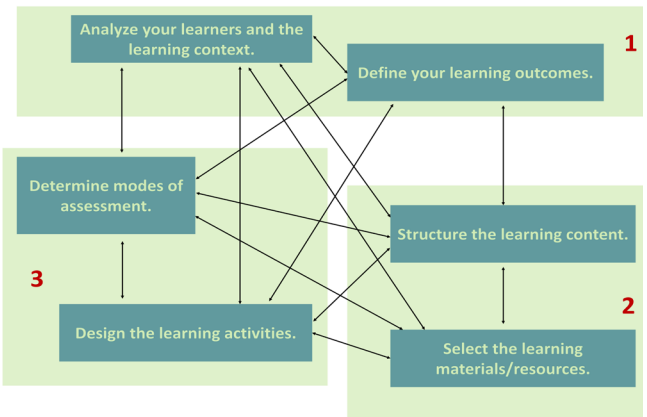
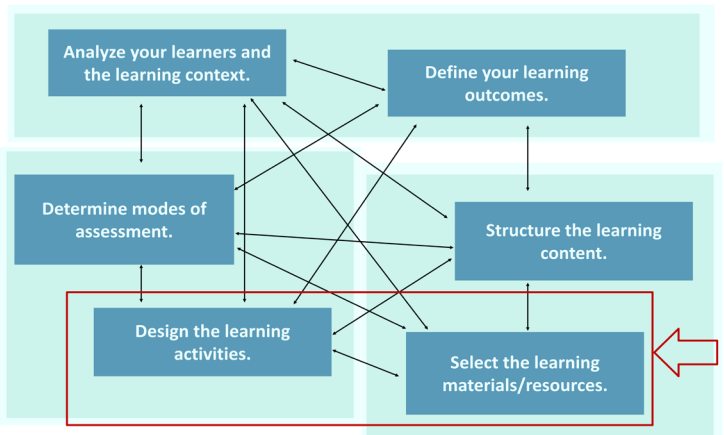


Figure 2

UPOU's course development implementation



In the earlier stages of the course development, elements of the Backward Design Framework (Bowen, 2017; Iino, Celik, & Lutz, 2017; Wiggins & Mctighe, 1998) are also evident, especially in the refining of learning outcomes and structuring learning content stages such that the desired end results of a course (learning outcomes) are consciously considered in aligning and determining the rest of the elements of a course syllabus, which then serves as the framework for developing the RBCP.

Guidelines in the Course Design or Development

Regardless of the underlying design framework, the guidelines adopted in designing course content at the UPOU aim to reflect principles of good practice in teaching in the ODeL context by conscientiously considering the learners' background and knowledge to maximize their learning, balancing content and skills development, and fostering interaction using various technologies through the development of the course materials, where initial activities and assessments are incorporated, prior to actual course delivery. In addition, the course design process continues by dynamically developing the RBCP based on insights gained from actual teaching practices and on the reviews of other experts and responses of the learners, consistent with the literature on effective teaching and course design presented in Table 1 and Table 2, respectively.

Table 1

Key principles of good teaching

• communicates high expectations		• shows clear learning outcomes or goals • reflects clear alignment of assessment and learning outcomes
	• is grounded in existing knowledge context (knowledge-centered)	
• respects diverse talents and ways of learning	• understands what learners bring to the learning context and considers their prerequisite knowledge, misconceptions, and background in the course design and delivery (learner-centered)	
• encourages contacts between students and faculty • develops reciprocity and cooperation among students	• considers how learners can work collaboratively to create new knowledge (community-centered)	• enables collaborative learning
• uses active learning techniques		

• gives prompt feedback • emphasizes time on task	• provides a wide variety of authentic assessment opportunities (assessment-centered)	• shows strong learner support (including timely and individualized feedback)
		• does regular course maintenance

It can be surmised from the three sets of principles referenced above that effective teaching is almost always concerned with incorporating or demonstrating: (1) learner-centered practices, (2) constructive alignment, (3) collaborative, cooperative, and meaningful interactions (e.g., student-student, teacher-student, and content-student interactions), and (4) a variety of assessment and meaningful feedback within a specific set of knowledge domain/s throughout the teaching and learning process. In addition, at the level of success in course design, issues on learner-centeredness, appropriateness of learning environment, resources, and technologies, as well as communication and interaction, must be addressed, as you can see from the summary in Table 2.

Table 2

Principles of effective course design

Four Design Principles (Beetham, 2007)	Universal Instructional Design (UID) Principles Tailored to Distance Education (Elias, 2010)	Course Design Principles for Multimedia Learning Materials (Scott & Cong, 2010)	Online Course Design Principles for Adults (Allen, 2016)
enables designing for a range of learning outcomes relative to the learning context		has course components that work together coherently and consistently (constructive alignment)	
is learner- centered	is useful and accessible for people with diverse abilities and in diverse locations accommodates a wide range of individual abilities, preferences, schedules, and levels of connectivity features welcoming and inclusive comments and feedback	reflects the following in the modules and lessons: 1) a clearly defined learning outcome; 2) expository text supported by multimedia resources (graphics, animations, video clips); 3) one or more interactive learning activities with formative feedback; 4) self-assessment activities with formative feedback; and 5) summaries that can be downloaded for review purposes	• tailors course design to students' needs, life experiences, and interests • helps learners construct knowledge rather than transmit knowledge • features authentic assessments
• considers appropriateness and relevance of digital resources and technologies	• has understandable interface design • minimizes hazards and adverse consequences of accidental or unintended actions • can be used efficiently and comfortably and with minimal physical and mental fatigue		creates authentic learning environments

Four Design Principles (Beetham, 2007)	Universal Instructional Design (UID) Principles Tailored to Distance Education (Elias, 2010)	Course Design Principles for Multimedia Learning Materials (Scott & Cong, 2010)	Online Course Design Principles for Adults (Allen, 2016)
enables interaction and dialogue with others	• communicates necessary information effectively • promotes interaction and communication among students and between students, faculty, and administrative services		fosters peer-to-peer and peer-to- instructor interaction

Roles in the Online Course Development Process

With adopting a more refined course development process and design framework comes the need to clarify the roles in online course development as well. As stated earlier, the UPOU did not let go of the notion of working with a team (collaborative approach) to ensure the quality of the course materials produced, which is consistent with the literature on collaborative models of developing courses online. In a study by Hixon (2008) on team-based course development, she summarized the team member roles "into five general categories: (1) project management, (2) subject matter expert/author, (3) instructional design, (4) technical support/production, and (5) other"—terms that also appear in several study projects and articles (Center for Teaching and Educational Technologies [CTET], n.d.; Holsombach-Ebner, 2013; Wright, 2011). In a study by Cuesta (2010), the course development team is divided into two: the academic group and the technical group, with an appointed director assigned to guide the rest of the course development team members and to design an action plan that meets institutional needs. Caplan and Graham (2008), on the other hand, emphasized the need for a central online development unit to ensure that "courses are of high quality and meet institutional guidelines" (p. 256). They used the term "para-academics" for the members of such development unit to liaise with the course author who is also considered the subject matter expert (SME), to obtain copyright permissions for elements which will be included as part of the course materials (when necessary), and to assume various responsibilities to ensure the quality of course materials which will be developed, produced, and or published. More specifically, they enumerated the roles as follows: project manager, copy editor, information technology expert, HTML and XML coder, media developer, instructional designer, graphic designer, administrative assistant and, sometimes, copyright officer (Caplan & Graham, 2008).

A comparison of the course development team members is presented in detail in the succeeding paragraphs, but one emerging common factor in all these studies, guidelines, and articles is the fact that developing (and reviewing) materials for a course and ensuring a successful course delivery take genuine collaboration and coordination among various professionals within an institution. The success of such a collaborative system relies on a multitude of complex factors such as the institution's priorities and resources, the course developer and faculty's readiness, engagement, and workload, even the nature of how ID is generally treated in relation to

addressing the learners' needs. Nevertheless, the UPOU continually and conscientiously adjusts accordingly whenever able.

UNIVERSITY POLICIES AND GUIDELINES ON COURSE DEVELOPMENT

A preliminary analysis of existing course development policies, implementation guidelines, and other university documents and data in relation to other institutions' guidelines paints a picture of the systems already in place concerning course design and review to ensure and maintain quality; however, certain conditions still need to be *sustainably* addressed to deal with the challenges of designing course materials online and to maximize the advantages of a resource-based approach.

Three main recommendations were made by Arinto (2014) to ensure that the course design process succeeds: (1) implementing a holistic training program that involves training on design for learning, (2) providing a set of tools and resources such as frameworks, templates, guidelines, to help the faculty in the course design, and (3) adhering to a regular review of both processes and outcomes of course design. These recommendations are supported by Cuesta (2010) in her enumeration of the basic conditions for effective integration of technology in materials design: (1) lending technical expertise to assist the course developers, (2) implementing mechanisms for sufficient planning time, (3) offering different short-term and long-term training for the development of every team member, and (4) ensuring prompt access to various technologies.

Adjustments in the Course Development Team

In terms of addressing quality concerns during the process of course design, the UPOU's roles within a team-based course development and review system that are in line with the resource-based approach may be categorized into four areas of concerns: (1) academic- and content-related, (2) management- and support-related, (3) style- and design-related, and (4) technical-related. Ideally, the process of planning, designing, and evaluating course materials should benefit from the involvement of a dynamic team that will actively work on a course, and UPOU has relatively ensured that these four areas of concerns in course development are covered by a course development team member for every course development project or contract. More roles have been added through the years as the university puts much emphasis on using open educational resources (OERs) instead of copyrighted materials,

producing more multimedia materials, and addressing accessibility concerns, among others. Table 3 presents an initial comparison of the roles in a course development team based on selected studies and on the UPOU's latest policy guidelines. The responsibilities assumed by each role reflect what Holsombach-Ebner (2013) refers to as the process and content development components of instructional design.

However, the reality of needing to develop multiple courses at a time necessitates one faculty or professional to assume more than one role, depending on his/her expertise and experience in relation to the institution's resources and limitations. In UPOU, one solution explored, albeit inconsistently, is the conduct of orientation and consultation sessions with and for course developers, which is in line with what Shaver (2017) advocates for in her paper on the benefits of learning design meetings to the online course development process.

Table 3

Course design/development roles

General areas of concerns and tasks	Caplan and Graham (2008)	Hixon (2008)	Cuesta (2010)	Association for Learning Technology (Wright, 2011)	Embry-Riddle Aeronautical University (Holsombach-Ebner, 2013)	UP Open University (2019)
Academic- and Content-related	• course author/ writer or SME • instructional designer	• faculty as the course author/ writer • instructional designer (also serves as the project manager)	*Academic team composed of:* • e-learning specialist (for the methodological design of the course) • pedagogic coordinator (for the planning, selection, and revision of content) • tutors (as knowledge facilitators)	• SME • course writer • reviewer • instructional designer • instructional assistant	• faculty course developer as SME • production coordinator/ instructional designer • academic department chairs • executive director of Instructional Design and Development department	• course writer/ developer (or redeveloper) • reader • instructional designer • gender specialist* • accessibility expert*
Style- and Design-related	• media developer • graphic designer • copy editor	• digital media services consultant		• multimedia designer • editor	• media production	• multimedia specialist *or* representative from the Multimedia Center (MC)* • (language) editor
Management- and Support-related	• project manager • administrative assistant • copyright officer	• information resource consultant • copyright consultant • Directors of these units: Center for Teaching and Learning (CTL), Instructional Design and Development (IDD), Instructional Technology (IT), Digital Media Services (DMS)	• Director (as guide)	• program head • coordinator • copyright officer	• Department of Online Instruction (for handling faculty contracts and orienting new faculty)	• Program Chair *or* Course manager* • OASIS staff as course (contract) monitor* • OASIS staff as resource checker (copyrighted materials and open educational resources)*
Technical-related	· information technology expert · HTML and XML coder	· instructional technologist	*Technical team composed of:* • technical coordinator • platform administrator • *or* • campus administrator (whichever applies)		• information technology • eLearning (LMS) support	• Information and Communication Technology Development Office (ICTDO) representative
*roles that have been added through the years in the UPOU's course development process						

Adjustments in the Review Guidelines for Quality Course Materials

While it may be difficult to separate the evaluation of the quality of course materials developed from the quality of actual course delivery to complete the picture of effective online teaching since the boundaries between development and delivery in ODeL naturally becomes blurred, we can at least have an initial review of the components, sections, categories, or aspects that are reviewed in the various course design guidelines used by selected universities (or network of academic and state institutions) to evaluate and further refine course materials with a more diverse perspective (Table 4).

Table 4

Components covered in the design and review guidelines for quality course materials

Components/ Sections/ Categories/ Standards that are considered and reviewed	California Virtual Campus - Online Education Initiative (OEI) for California Community Colleges (2020 version): **OEI Course Design Rubric**	California State University: **Quality Online Learning and Teaching** (QOLT) **Rubric**	**Quality Online Course Initiative (QOCI) Rubric** (Illinois Online Network [ION], 2019)	State University of New York [SUNY] (2017): **Online SUNY Course Quality Review Rubric (OSCQR)**	University of Glaslow (2017): **Guidelines for Programme and Course Design and Review**	Griffith University (2019): **Course Design Standards and Exemplars** based on six principles from Griffith Learning and Teaching Framework
course overview and introduction (based on syllabus or course guide)	framed under *content presentation* (organization and access);	framed under *course overview and introduction;* focuses on whether a thorough description of the course is provided (from course description, structure, requirements, rules of conduct, etc.) as an orientation and also includes prerequisite knowledge and competencies as well as expectations	framed under *instructional design* category; focuses on all course-related information which must be communicated to the students at the beginning of the term	focuses on all course-related information which must be communicated to the students	only implied under *student support*; focuses on communicating an "overall strategy for academic support, including written guidance"	framed under *learner-enabling design*
course structure	framed under *content presentation – use of the content management system (CMS)*; focuses on chunking or segmentation of content	does not appear in the review categories/ aspects	framed under *instructional design* category; focuses on purpose, sequence, and chunking of content	framed under course *overview and information*; focuses on deconstructing the syllabus for the students	framed under *attention to contextual influences*; focuses on structuring the course to "take account of the needs of the student target group" also implied under *progression*; focuses on whether the course "support student progression within the programme"	guided by *locally and globally connected principle*; focuses on structuring the course that is informed by industry and professional standards and that "intentionally incorporates diverse cultural, international/ global and regional/ community perspectives"

Components/ Sections/ Categories/ Standards that are considered and reviewed	California Virtual Campus - Online Education Initiative (OEI) for California Community Colleges (2020 version): **OEI Course Design Rubric**	California State University: **Quality Online Learning and Teaching** (QOLT) **Rubric**	**Quality Online Course Initiative (QOCI) Rubric** (Illinois Online Network [ION], 2019)	State University of New York [SUNY] (2017): **Online SUNY Course Quality Review Rubric (OSCQR)**	University of Glaslow (2017): **Guidelines for Programme and Course Design and Review**	Griffith University (2019): **Course Design Standards and Exemplars** based on six principles from Griffith Learning and Teaching Framework
learning outcomes/ objectives	framed under *content presentation – unit objectives*; focuses on placement, clarity, and alignment of objectives	framed under *assessment of student learning;* focuses on whether or not the student learning outcomes are SMART	framed under *instructional design* category; focuses on both course-level and module-level learning outcomes and their alignment	framed under course *overview and information*; focuses on clarity and alignment of objectives	framed under *aims and intended learning outcomes (ILOs);*	framed under *learner-enabling design*
use of learning resources	framed under *content presentation – use of the CMS*; focuses on effective use of multimedia	focuses on the variety of materials and material formats and how these materials enable students to meet the learning outcomes also has a separate category on *technology for teaching and learning* which focuses on "how well the instructor utilizes technology to effectively deliver course content"	framed both as under *instructional design* category and as a separate category; as under instructional design: focuses on how the audio and video files contribute to achieving the module objectives and on how relevant they are to the topic/s as a separate category: focuses on the "design and use of documents, graphics, multimedia, and other technologies in a course that are under the course developer's control"	framed under *content and activities;* focuses on access to a variety of engaging resources; has a separate category on *technology and tools which also covers resources*; also includes issues on accessibility of content	focuses on appropriateness of learning resources but includes technical and administrative support in making these resources available (e.g., Library and ICT support)	framed under *learner-enabling design* and *digitally enabled learning* principles

Components/ Sections/ Categories/ Standards that are considered and reviewed	California Virtual Campus - Online Education Initiative (OEI) for California Community Colleges (2020 version): **OEI Course Design Rubric**	California State University: **Quality Online Learning and Teaching** (QOLT) **Rubric**	**Quality Online Course Initiative (QOCI) Rubric** (Illinois Online Network [ION], 2019)	State University of New York [SUNY] (2017): **Online SUNY Course Quality Review Rubric (OSCQR)**	University of Glaslow (2017): **Guidelines for Programme and Course Design and Review**	Griffith University (2019): **Course Design Standards and Exemplars** based on six principles from Griffith Learning and Teaching Framework
learning strategies and activities	framed under *content presentation – learner support*; focuses on providing individualized learning opportunities	framed under *facilitation and instruction*, mostly during course delivery; focuses on "how well the instructor facilitates the course, communicates with students, engages students to be active learners, and reinforces the development of a sense of community"	framed under *instructional design* category; focuses on the variety of instructional delivery methods and ways for learners to demonstrate knowledge	framed under *content and activities;* focuses on availability of authentic activities that develop higher-order thinking and problem-solving skills	implied under *attention to contextual influences*; focuses on "taking account of the University's Learning and Teaching Strategy priorities"; implied under *student workload*; focuses on the time and workload demands on the student	guided by *engaging and empowering pedagogies* and *scholarly inspired curriculum*; emphasizes a balanced "active, authentic and collaborative approaches to learning and assessment"
assessment and academic integrity concerns	focuses on authenticity, variety, and effectiveness of assessment	framed under *assessment of student learning;* focuses on all processes used to gather evidence of the achievement of student learning outcomes	for assessment: framed as a separate category on student evaluation and assessment which focuses on the assessment's objectives, strategies, grade rubric, feedback mechanism and its management for academic integrity: framed under *instructional design* category; focuses on academic integrity and code of conduct	framed under *assessment and feedback*; focuses on frequency and appropriateness of assessment methods, opportunities for students to review performance, and access to feedback	focuses on the assessment strategies and methods used to ensure achievement of student learning outcomes and the confidence in the integrity and security of the assessment	guided by *engaging and empowering pedagogies* and *scholarly inspired curriculum*; focuses on assessments that allow for self- and peer-evaluation and develop innovative thinking and problem-solving skills

Components/ Sections/ Categories/ Standards that are considered and reviewed	California Virtual Campus - Online Education Initiative (OEI) for California Community Colleges (2020 version): **OEI Course Design Rubric**	California State University: **Quality Online Learning and Teaching** (QOLT) **Rubric**	**Quality Online Course Initiative (QOCI) Rubric** (Illinois Online Network [ION], 2019)	State University of New York [SUNY] (2017): **Online SUNY Course Quality Review Rubric (OSCQR)**	University of Glaslow (2017): **Guidelines for Programme and Course Design and Review**	Griffith University (2019): **Course Design Standards and Exemplars** based on six principles from Griffith Learning and Teaching Framework
accessibility and formatting issues	focuses on equitable access to instructional content (includes styles, links, colors, images, audios, videos, etc.)	framed under *accessibility and universal design*; focuses on course's adherence to accessibility and universal design principles also has a separate category on mobile platform readiness (albeit optional)	focuses on the accessibility of documents, images and graphics, multimedia, navigation, and colors; must be in line with their federal and state laws mandating the accessibility of digital resources for institutions of higher education and with the Web Content Accessibility Guidelines (WCAG)	framed under *design and layout* but also appears in other categories	⊗ does not appear in the review categories/ aspects	framed under learner-enabling design; includes a reflection of principles for Universal Design for Learning (UDL) and Transparent Design (TD)
interaction, communication	focuses on mechanisms for instructor-initiated and student-initiated communication	framed under student interaction and community; focuses on how well the course design encourages students to become active learners (fostering student-student, student-teacher, and student-content interactions)	focuses on fostering student-student, student-teacher, and student-content interactions; on how opportunities for communication are managed; and on the mechanics of group work (if available)	framed under *interaction*; focuses on communication of expectations, mechanisms for instructor-initiated and student-initiated communication, and constructive collaboration	⊗ does not appear in the review categories/ aspects	guided by learner-enabling and *partnership-based learning* principles; focuses on creating collaborative learning environments

Components/ Sections/ Categories/ Standards that are considered and reviewed	California Virtual Campus - Online Education Initiative (OEI) for California Community Colleges (2020 version): **OEI Course Design Rubric**	California State University: **Quality Online Learning and Teaching** (QOLT) **Rubric**	**Quality Online Course Initiative (QOCI) Rubric** (Illinois Online Network [ION], 2019)	State University of New York [SUNY] (2017): **Online SUNY Course Quality Review Rubric (OSCQR)**	University of Glaslow (2017): **Guidelines for Programme and Course Design and Review**	Griffith University (2019): **Course Design Standards and Exemplars** based on six principles from Griffith Learning and Teaching Framework
information on other forms of learner support	framed under *content presentation – institutional support*; focuses on links to institutional services and technical support as well as policies relevant for learner success (academic dishonesty, withdrawal and dropping, etc.)	framed under *Learner support and resources*; focuses on links to technical support provided by the campus and other campus academic (non-technical) support services such as disability support center, writing center, tutoring center	focuses more on providing links to the available institutional or program support and resources (e.g., institutional or program policies and procedures, academic resources through the institution's library, tutoring center, counseling services)	⊗ does not appear in the review categories/ aspects	focuses on information on available arrangements for student support	framed under *learner-enabling design*; focuses on referring students to resources and services to support them with assessment difficulties
information on course closure and evaluation	framed under *content presentation – learner support*; focuses on providing opportunities for students to comment anonymously on course design and content	framed under *course summary and wrap up*	framed under *assessment and feedback*, specifically on course design, course content, course experience, and ease of online technology	⊗ does not appear in the review categories/ aspects	focuses on whether or not an evaluation strategy is presented	framed under *partnership-based learning*; focuses on improving the course based on past and current students' feedback

In terms of addressing quality concerns based on the outputs of the course development, the UPOU has continually developed evaluation instruments that may be comparable with the guidelines used in other universities to ensure and maintain quality, as presented in Table 4. In addition, Baldwin, Ching, and Hsu (2017) analyzed six national and statewide course evaluation instruments in the United States in their efforts to identify common standards to guide the design of online courses, and their comprehensive study showed that each instrument was designed to address a particular need or context, resulting in a different number of review components for each instrument. For example, the Course Design Rubric from California Community Colleges' Online Education Initiative (OEI), divided into four components, focuses more on ensuring course accessibility for all students while the 10-component Quality Online Learning and Teaching (QOLT), now part of Quality Learning and Teaching (QLT) rubric from California State University, is concerned with improving both online course design and delivery, but any of these instruments can be used to promote quality in online courses by considering quality standards throughout the course design and development and identifying best practices (Picket, 2020; University of Glasgow, 2017). However, in reviewing these guidelines, it seems that a better practice is not to focus on the course materials as a product in itself. It is more beneficial to analyze the quality of the outputs during and after the course design process and during and after initial course delivery. With certain similarities from the other evaluation instruments reviewed, the UPOU's evaluation instruments, which can be used both for self- and peer evaluation during and towards the end of the course development, feature the following components: (1) quality of the learning outcomes or learning objectives, (2) logical arrangement of course content, (3) variety, relevance, and accuracy of resources, (4) variety and manageability of learning activities and assessments and their alignment with the learning outcomes, and (5) accessibility and bias concerns. Despite the challenges, the use of such evaluation schemes, not as a mere rating system but more of as mechanisms for continuous improvement, is indicative of the university's efforts in helping facilitate quality online course design.

MAINTAINING QUALITY COURSE CONTENT

While adjustments and continuous improvements have been made, at least in the course development roles and review guidelines adopted during and towards the end of the course development process, there is still a lot to be done in ensuring and maintaining quality in the course design and delivery phases in ODeL.

In terms of the design framework, following RID steps conscientiously may already enable the university's programs to develop course materials much more quickly without sacrificing their quality and roles in helping the students develop and practice the skills and acquire knowledge needed to thrive within and outside the academe. However, constantly exploring more flexible ways to develop courses remains the key to adapt to a fast-changing world, especially since RID is but one kind of flexible design model. Bates (2019) advocates adopting "agile learning design," especially in the following cases: (1) where there are dynamic topics, such as subjects that are about, or strongly influenced by, digital technologies; (2) where students are very diverse and have different needs; (3) where the most appropriate teaching and learning tools are under constant change and development; and (4) where the main goal is for the students to develop skills to cope in a volatile, uncertain, complex, and ambiguous (VUCA) world. Assisting the course developers and FICs in translating forms of agile learning design and delivery principles into practice shall naturally become a part of the university's faculty support to be reflected in all forms of preparation, course design and delivery orientation, and course evaluation system.

In terms of the design roles and how adopting a collaborative model in line with a resource-based approach may be sustained, future directions include implementing a holistic training program much more consistently primarily for course developers and then eventually for FICs despite the challenges in resources. Further clarifying the collaborative element of the course design and the roles and expectations to all team members may also help improve course development. To enhance collaboration and increase efficiency, the university may need to encourage and empower the course developers to be more open to experimenting with using newer tools, especially considering the changing theoretical, organizational, and technological factors in addressing pedagogical needs effectively. Lastly, to be consistent with the direction that the university is going in terms of accessibility concerns, clarifying a more concrete set of operational guidelines for developing OERs in various formats with gender sensitivity and accessibility concerns in mind will further assist the course developers although the changes in engaging in OER use and production that have already been made so far are presented in the next chapter.

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CHAPTER 6

Producing Quality Learning Resources in Multimedia Formats

Luisa A. Gelisan, Lexter J. Mangubat

ABSTRACT

The University of the Philippines Open University (UPOU) is mandated to provide wider access to quality education as well as to contribute to the upgrading of the country's educational system. Aside from offering relevant degree programs and continuing education courses through open and distance learning, the mandate is also carried out with the sharing of university created multimedia learning materials. As the UPOU espouses the philosophy of openness, the learning materials are accessed and used by the general public without a fee. While the materials are shared for free, quality assurance (QA) approaches are observed in each development, production, and publication phases/stages. In this chapter, QA practices are presented and future challenges are considered.

INTRODUCTION

The University of the Philippines Open University (UPOU) was established to provide Filipinos, especially those living in areas far from University of the Philipines residential campuses, access to quality education that the country's premier state university offers. For more than two decades, UPOU has pioneered the offering of degree programs and continuing education courses through open and distance learning (ODL) in the Philippines.

Aside from its degree programs and continuing education course offerings, UPOU also contributes to the further improvement of the quality of education in the country through the learning materials it continues to develop, produce, and share not only with its learners and faculties-in-charge (FIC), but with all types of learners, educators, and trainers of other learning institutions.

The UPOU produces an array of learning materials, both in text and multimedia formats. The production of which goes through processes to assure the quality and usefulness of the materials through its Multimedia Center (MC). The center provides know-how and technical assistance to faculty offices, faculty members, and other units and programs of the university for the development, production, and distribution/publication of multimedia learning materials.

UPOU MULTIMEDIA CENTER'S QUALITY ASSURANCE PROCESS

Quality assurance (QA) entails the management, organization, and implementation of evaluation procedures that meticulously examine the quality of a facility, service, and/or product (Almedro & Silveira 2018; Bucki 2019). Harman 2000 (as cited in Belawati & Zuhairi 2007) said that QA processes for higher education institutions, serve to "ensure achievement of quality outputs and further quality improvements" (p. 2).

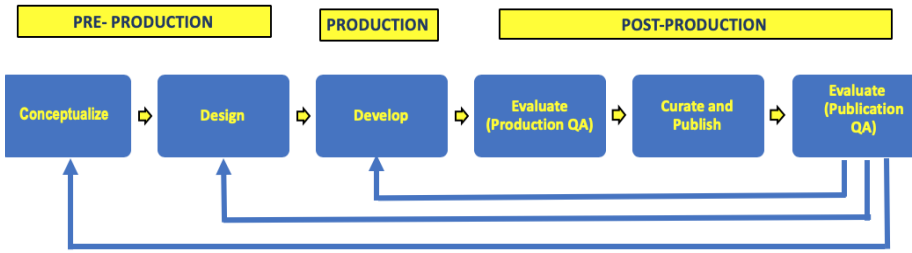
The QA processes focus on creating products with built-in qualities, this is made possible through monitoring the quality in every step of the production process and not when the product is already produced. Almendro and Silveira (2018) said that with constant monitoring, mistakes or oversights are sorted out and remedied right away and not when the product has been produced. At the MC, monitoring of quality in every step of the production process is highly recommended and adhered to.

The MC collaborates with the Faculty Offices and the Office of Academic Support and Instructional Services (OASIS) in the development and production of multimedia learning materials. The UPOU Faculty Offices—Faculty of Education; Faculty of Information and Communication Studies; and the Faculty of Management and Development Studies—are in-charge of the development, offering, and delivery of degree programs and courses. The OASIS, on the other hand, is the office responsible for the development of instructional/learning materials in text formats.

The development of multimedia material goes through three major phases—(a) pre-production, (b) production, and (c) post-production (Figure 1).

Figure 1

Creation cycle of open educational resources (OER) in multimedia format



Pre-production Phase

This phase consists of two stages, conceptualization and design. Under the conceptualization stage, the course proponent and/or the FIC of the course prepares a proposal for the production of the multimedia learning material. The proposal needs to be reviewed, approved, and endorsed by the Program Chair to the Faculty Dean. The MC shall only act on concept notes/proposals that have been approved and endorsed by the Faculty Dean.

At the conceptualization stage, the content creator shall have chosen among two options with regard to how the learning material shall be produced: (1) the content creator can opt to do production on his/her own, or (2) the content creator can tap the MC team to provide production assistance. For option one, the content creator can borrow production equipment and request the use of studio facilities from the center. Under the second option,

production meeting/planning/orientation for all people involved shall be done prior to the actual shoot. Among the topics for discussion are human and non-human resources requirements for the OER to be produced, (i.e., talents; audio, video, and graphics requirements; location shoot; set design; among others).

Upon receipt of the approved proposal, the design stage shall commence with the MC convening the Quality Circle, which consists of the following:

a. FIC who shall serve as content creator and/or subject matter specialist;
b. Multimedia specialist;
c. Instructional designer; and,
d. Other members of OER development team (i.e., universal accessibility expert, gender specialist)

The multimedia specialist and the instructional designer can be one person. This person shall assist/guide the content creator in choosing the appropriate format to be used and in developing the script/storyboard. Even at the design stage, evaluation is already commenced. The following aspects, among others, are looked into: attainment of objectives of the multimedia materials; accuracy of the content; language, concepts and terms used; gender fairness; and, universal accessibility. Revisions on the script/storyboard are carried out if deemed necessary.

Production Phase

Development of the multimedia materials/OER pushes through upon approval of the script/storyboard. At this stage, revisions in the script during the shoot or development/production of the materials may occur. As experienced by the center, there were times that a certain portion of a learning material cannot be executed as written in the script. Improvisation shall be done to further enhance multimedia material's learnability and usability.

Post-production Phase

There shall be three stages under the post-production phase. First is the production QA, wherein the alpha version of the multimedia material shall be reviewed by the members of the quality circle and the FIC/content creator.

At this stage, other faculty members who are teaching similar course/ courses can also be requested to evaluate the material in terms of content, learnability, and usability.

Revisions on the alpha version shall be done based on the comments/ recommendations of the FIC, quality circle, and other reviewers from within the university. The revised material, beta version, shall then be presented to the FIC and quality circle for approval. When approval is secured, the multimedia material shall be curated and published in the UPOU Networks, the second stage under this phase. The UPOU Networks is the online repository of the multimedia and text-based teaching and learning materials of the university.

Once uploaded in the UPOU Networks, the material shall be opened for peer and public reviews. This is the third stage under the post-production phase. Referred to as the publication phase, QA is just as important in this phase. Results from this evaluation stage are essential as the reviews, comments, and suggestions shall be coming from the users/learners. The valid comments shall be the basis for revisions to be done on the multimedia learning materials.

The center uses a continuous process of development/redevelopment. As to what stage of redevelopment a produced material shall go through, depends on the extent of revisions that have to be done. Revision can go back or pick up from any of the phases and/or stages.

QUALITY ASSURANCE INDICATORS

When evaluating the quality of the produced multimedia materials or OER, the MC looks into different aspects, which can be categorized into two groups: (a) content and its presentation; and, (b) the technical aspects.

For content and its presentation, the following questions serve as guide in evaluating the material:

1. Does the content and treatment of the information/knowledge presented can make learners achieve the material's learning objectives?
2. Does the treatment and fluidity of the presentation of the information make it easier for the learners to understand the topic presented?

3. Is the information presented accurate and up-to-date?
4. Is the language and/or words used make it easier for the target group of learners to grasp the content of the material?
5. Does the material promote equality and inclusivity (i.e., has no bias against gender, culture, religion, disability, socio-economic status, among others).
6. Are the graphics, video clips, music, and similar multimedia content appropriate for the topic/subject matter and for the target audience?
7. Is the length of the material right? Is it too long/dragging that bores the audience? Can the material be chunked to shorter visual or audio? Or is it too short that learners would wonder if the material has really ended?

In terms of technical quality, the following are looked into:

1) Quality of the video

Is the video clear enough? Does the treatment of the video clips vary to emphasize important details?

Are the quality of the video clips, animations, or texts included in the material make it easier for the learner to follow/understand what is being discussed or being presented?

Are the colors used appropriate, especially for the color blind?

Are the sizes of the videos, text, and graphics large enough for the audience to see?

Does the accompanying text in the video stay on screen, enough for the viewer to read and understand what was presented?

2) Quality of the audio

Is the voice-over audible?

Is the volume pleasant enough or it sounded more like a noise that makes listening, thus learning too, unpleasant?

Are the music and sound effects used appropriate to the topic being presented?

THE QA FRAMEWORK AND OPEN EDUCATIONAL RESOURCES DEVELOPMENT

One of the undertakings of the university promotes the attainment of United Nations' sustainable development goal number 4 (SDG 4)—that of ensuring inclusive and quality education for all and the promotion of lifelong learning —and the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) Learning for All: Guidelines on the Inclusion of Learners with Disabilities in Open and Distance Learning.

The university develops OERs or the "teaching, learning, and research materials in any medium that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions..." (UNESCO, n.d., para. 1). The term OER was developed in 2002 during UNESCO's Forum on the Impact of Open Courseware for Higher Education in Developing Countries. Since then a community of OER authors and producers have emerged as well as establishments that are using OER in their teaching and learning activities. The popularity of its use is brought about by several factors, among which are the following:

- provides opportunity for collaboration, dissemination or sharing of knowledge, and innovation of educational contents (Bliss & Smith, 2017);
- allows faster transfer of "high-impact practices in pedagogy" (Plotkin, 2010);
- promotes digital literacy, a necessary skill in the current century, as it uses digital technologies to produce, share, and access OER (Geser et al., 2007);
- allows flexibility to choose course materials that can be used, modified, and integrated in teaching and learning (Geser et al., 2007);
- promotes student-centered approach to teaching and learning as the students are are not restricted to share their studies while at the same time utilize learning resources (Geser et al., 2007);
- saves time and effort of learning facilitators, as OER can be re-used, adapted, and/or customized based on the characteristics and needs of the course (Geser et al., 2007); and
- addresses specific needs of a user or a learner as it is adaptable (Bliss & Smith, 2017).

As the UPOU espouses the philosophy of openness, the university-created OERs are uploaded and curated in the UPOU Networks website. Access and use of these materials by the public are without a fee, but while this is the case, QA approaches are observed in each development, production, and publication phases/stages to ensure that materials are accurate and usable.

The development of QA practices for the development, production, curation, and reproduction/revision of OERs in the center are influenced by different practices, principles, and framework. Among which are the Principles of Universal Design for Learning (UDL), UNESCO's Guidelines to Ensuring Inclusion and Equity to Education, Mayer's Principles of Multimedia Learning, and the TIPS Framework of QA for OER.

Principles of Universal Design for Learning

The Universal Design for Learning (UDL), as implemented in UPOU, is a set of curriculum development principles that will give learners equal opportunities to learn. It is a blueprint that can be used to "create instructional goals, methods, materials, and assessments that work for everyone" and "provides flexible approaches that can be customised and adjusted for individual needs"(Center for Applied Special Technology [CAST], 2018, UDL at a Glance section).

The following are the principles of UDL (CAST, 2018):

- Provision of multiple means of representation (the "what" of learning). Learners differ in the ways that they learn, perceive and comprehend information presented to them.
- Provision of multiple means of action and expression (the "how" of learning). Learners differ in the ways that they can navigate a learning environment and express what they know.
- Provision of multiple means of engagement (the "why" of learning). Learners differ in the ways in which they can be engaged or motivated to learn.

UNESCO's Guidelines to Ensuring Inclusion and Equity to Education

The UNESCO guidelines, developed in 2017, will ensure inclusion and equity to education and center on the United Nations' SDG 4. The SDG 4 also promotes the development of education facilities, including

educational materials, that shall "provide safe, inclusive and effective learning environments for all" (UNESCO 2020, Safe and non-violent learning environments for all: Trends and progress section, para. 2)—they should be child safe, gender sensitive, and disability friendly.

Mayer's Principles for Multimedia Learning

Richard Mayer, a Psychological and Brain Sciences professor at the University of California, came up with 12 principles that can be followed to be able to create effective learning materials in multimedia formats (Mayer, 2009).

The multimedia learning principles are the following:

1) Coherence Principle

> Only relevant and simple components should be incorporated in the learning material. Materials that do not contribute to the achievement of the learning goals should be excluded.

2) Signaling Principle

> Learning material should contain cues that can highlight or draw the attention of the learner to the important information in the multimedia material.

3) Redundancy Principle

> Only the combination of spoken words and graphics enhance learning. Adding text on-screen should be avoided as it may overwhelm the learner visually.

4) Spatial Contiguity Principle

> Text and graphics when presented near each other enhances learning.

5) Temporal Contiguity Principle

> Simultaneous presentation of words and pictures makes learning better than successive presentation of these components.

6) Segmenting Principle

Producing long multimedia learning materials should be avoided. Learning materials should be presented in a segmented manner as it allows learners to control the pace of his/her learning.

7) Pre-training Principle

Establishing prior knowledge or scaffolding, such as learning key terms, of students should be done before exposing them to the multimedia learning materials. As the content of the learning material, especially when the topic presented is complex, may overwhelm the learners.

8) Modality Principle

The use of the combination of narration and pictures enhances learning more than the combination of printed text and pictures.

9) Multimedia Principle

The combination of words (whether narrated or printed) and pictures enhances learning more than using words alone. However, the propositions of the redundancy and modality principles should be taken in consideration.

10) Personalization Principle

The use of conversational style of narration or lecture in a multimedia material enhances learning more than formal style.

11) Voice Principle

A narration done by a human voice promotes better learning than using a computer or a machine voice.

12) Image Principle

Adding a speaker's image on screen does not necessarily enhance learning. It was suggested to avoid including one's video when graphics and texts are being presented in the multimedia material.

However, it was pointed out that the last two principles are for further studies.

The TIPS Framework of Quality Assurance for Open Educational Resource

This TIPS framework was first developed in 2013 by Paul Kawachi, a professor of Instructional Design in Open University of China, formerly the China Central Radio and TV University. Then in 2014, he came up with version 2.0. Both versions were published as OERs by the Commonwealth Educational Media Centre for Asia (CEMCA). TIPS stands for the four groups of QA criteria that teachers may adapt to assure quality of the material they will create or will choose from the various OER available on the Internet. These four groups are as follows:

1) T — teaching and learning processes
2) I — information and material content
3) P — presentation product and format
4) S — system technical and technology

The first set of criteria under teaching and learning processes look into the following aspects concerning appropriateness of the resource for the students with whom the OER shall be shared: including usefulness of the resource; teaching approach to use; appropriateness of the language/word/ manner of delivery; potential of the OER to motivate the students to learn, be engaged, and to be more critical of the information shared in the material; localization of the information contained in the material or suitability with the realities of the learners.

Under information and material content, the following should be evaluated: the accuracy, reliability, authenticity, relevance, and up-to-dateness of the content; promotion of inclusivity, non-biasness, and equality; contextualization of the information; length of the material; usability of the material for other courses; and, availability of other sources to enrich the subject matter presented in the material.

For presentation product and format, the material should have an open license, preferably one that would allow reuse and remix of the material; portable, easy to access and share; has good quality audio, graphics, video and colors that would stimulate learning; and, can be used off-line or has mobile format.

With system technical and technology, the OER should have metadata tags to make the material easier to find and identify, thus, should include information on duration, format, file size, and difficulty level, if any; created on

open source software and can be accessed or opened in various platforms and has a date of production and/or revision.

CHALLENGES ARISING FROM THE QA FRAMEWORK

The MC's QA framework had been presented to several faculty and affiliate faculty members of UPOU. There were three common concerns raised when the framework was presented. First is the tediousness and time-consuming process to develop the multimedia learning materials, though many had acknowledged the importance of going through each stage as such would ensure the quality of the learning materials. Second is the need to learn knowledge and acquire skills for the development of multimedia learning materials, from scriptwriting to actual shoot/recording/production. Last, is the access to equipment and technical assistance needed for the production.

To deal with these concerns, the center had started and shall continue to hold training programs needed for the development of multimedia learning materials. In the past years, training on and presentations on different topics had been done, such as use of applications/software that can be used for learning materials production; on-camera presentation skills of the content creator and/or talent; videography, among others. There were also presentations on the different services that the content creators can avail of from the center—proposal development, scriptwriting, instructional design, use of various audio-visual (AV) equipment and software/applications, and provision of recording studios.

Continuous upgrading of production hardware and software are also being done as well as construction of additional recording studios.

FUTURE CONSIDERATIONS

The development of learning materials is a continuous process. There shall be other challenges that may arise. To address the challenges, developers/content creators, members of the quality circle, and of the production team also need to continuously upgrade their knowledge not only on the subject matter being presented, but as well as on pedagogy, and on new ways of presenting information through multimedia.

Another consideration is to formalize the set of guidelines presented here.

The guidelines are there, but they are not yet fully applied and adapted by everyone, especially when the planning, producing, and publishing their own educational resources for their respective online courses did not pass through the center nor through the OASIS.

Styles, formats, presentations, and treatments, in the future may evolve to something that may be altogether different in the ways information and knowledge are presented and shared at this time. The center shall be developing not only video and audio/podcast materials, but eventually will sink its teeth in the development or production of augmented reality (AR) and virtual reality (VR) materials to be able to keep-up with the evolving characteristics and learning needs of learners, the circumstances that they are in, and the advancements in information and communication technologies. But, as the center delves into the development of new materials with new treatments, the implementation of the QA process should never wane. It should be upgraded and further improved. To do this, the center should not only promote continuous capability and capacity building of its present manpower, but should also expand the number of its staff members with various expertise concerning OER development and tap the expertise of the university's faculty members and research/extension personnel with regards to not only development of resources, but as well as pedagogy, instructional design, and research undertakings.

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CHAPTER 7

Quality in Continuing Education

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ABSTRACT

One of the stated objectives in the resolution establishing the University of the Philippines Open University (UPOU) is to provide opportunities for alternative access to quality higher education by offering baccalaureate and post-baccalaureate degree programs as well as non-formal courses by distance education. The development and delivery of non-formal courses in UPOU aim to institutionalize a system of continuing education to sustain professional growth and promote lifelong learning especially for those who cannot leave their jobs or homes for full-time studies. This chapter presents the practices in course development and delivery of the UPOU's non-formal courses as part of its Continuing Education Program (CEP). Patterned after the development and delivery of formal programs and following the four-step quality assurance continuing education program (QACEP) framework, the chapter discusses the processes and procedures in the (1) planning and design, (2) implementation and delivery, (3) monitoring and evaluation, and (4) continuous improvement of UPOU's CEP.

INTRODUCTION

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) "believes that education is a human right for all throughout life and that access must be matched by quality" (UNESCO, 2019, Education transforms lives section). It is also believed that lifelong learning is mandatory in one's personal and professional growth. Whether one is a businessman, an instructor, a homemaker, an employee, or a practicing professional, one must continue to develop his/her skills and learn new ones to keep abreast of the demands of our ever-changing society.

In 1987, the Asia-Pacific Programme of Education for All defined continuing education as follows:

> ...continuing education as a broad concept which includes all of the learning opportunities all people want or need outside of basic literacy education and primary education.... which implies that it is for literate youth and adults; it is responsive to needs and wants; it can include experiences provided by the formal, non-formal and informal education sub-sectors; and, it is defined in terms of the opportunity to engage in lifelong learning after the conclusion of primary schooling or its equivalent. (UNESCO, 1993, "Chapter 1: The Context of Continuing Education" section)

In this information age, one cannot remain stagnant in one's education, be it formal (degree program), non-formal, or informal in nature. Skill sets that are of high demand today can become obsolete tomorrow. Our continuously evolving society and technologically-advancing industry constantly require brand new skills from the workforce and therefore pose a great challenge to the higher education institutions (HEIs) where streamlined knowledge and skills are expected to be obtained/acquired from. Mismatch in the available jobs versus skills of the labor force has become an emerging national and global issue.

Continuing education, being generally needs-oriented, is a key to narrowing the gap while creating a learning opportunity for those individuals who wish to pursue a particular passion or interest, accelerate in or shift from their career, or are planning for future business endeavors, etc. Continuing education, regardless of one's chosen provider, is also found to be an effective tool to

address/supplement/augment inadequacies in formal education. Delivered through different formats (classroom-type or technologically-mediated) and now also offered by various organizations (training centers, company-based, community-based, etc.) within and outside the academic institutions, the quality of Continuing Education Programs (CEP) becomes a major concern.

In response to this, the University of the Philippines Open University's Faculty of Management and Development Studies (UPOU-FMDS) has offered continuing education non-formal courses that are delivered online for worldwide accessibility. These courses were developed and delivered by experts from the academe and practitioners from the industry and managed by an open and distance e-learning (ODeL) university. In this chapter, we reiterate the process of quality assuring degree/formal course development as applied to the non-degree/non-formal programs.

The offering is in line with one of the stated objectives in the resolution establishing the UPOU: to provide opportunities for alternative access to quality higher education by offering baccalaureate and post-baccalaureate degree programs as well as non-formal courses by distance education.

The development and delivery of non-formal courses in UPOU aim to institutionalize a system of continuing education to sustain professional growth and promote lifelong learning, especially for those who cannot leave their jobs or homes for full-time studies.

The UPOU began managing the course development and delivery of its non-formal courses immediately after its establishment in 1995. In the early years, the UPOU, in general, took care of the promotion of the courses; the Office of the University Registrar (OUR) was in charge of the admission and registration of enrollees; and, the former campus-based Schools for Distance Education (SDEs) took care of the development and delivery of these courses.

In 1999, the newly organized discipline-based Faculties of Studies assumed a more proactive role as it coordinated the admission and registration up to the completion of learners, with appropriate support from relevant UPOU offices/units.

Currently, the UPOU, specifically the FMDS, has 10 non-formal courses, grouped into three clusters under its CEP, that are up and running:

A. Human and Social Development Cluster:

1. Caring for the Child with Special Needs (CCSN);
2. Financial Management in Nursing Practice (FMNP); and,
3. Research Utilization in Nursing Administration (RUNA).

B. Environmental Cluster:

1. Integrating Climate Change Adaptation and Disaster Risk Management Policies, Plans and Investments toward Inclusive and Sustainable Agricultural and Rural Development (CCA & DRM);
2. Organic Agriculture (OA); and,
3. Responding to Climate Risks in Agriculture and Natural Resources Management (RCRANRM).

C. Entrepreneurship Cluster:

1. Introduction to Electronic Commerce (eCom);
2. New Enterprise Planning (NEP);
3. Personal Entrepreneurial Development (PED); and,
4. Simplified Accounting for Entrepreneurs (SAfE).

The development and delivery of non-formal courses have evolved throughout the years. To date, it has generated a total of 4,185 enrollees and 2,444 course completers.

In recognition of the contribution of the non-formal courses to the lifelong learners, in particular, and the university, in general (as an extension and/or public service initiative), and with the Certificate of Accreditation awarded to UPOU-FMDS for having completed the requirements for Continuing Professional Development (CPD) as CPD Provider in accordance with the "Implementing Rules and Regulations of Republic Act No. 10912, otherwise known as the CPD Act of 2016" set forth by the Professional Regulation Commission in Resolution No. 1032, Series of 2017, the CEP of FMDS continuously develops and improves the non-formal courses, with the aim of sustaining its relevance and ensuring its development and delivery.

The non-formal courses under the UPOU's CEP are fee-based since these are 12 to 16-week teacher-facilitated courses while UPOU's Massive Open Online Courses (MOOCs) are free since these are only 4 to 6-week non-

teacher-facilitated courses. Both, however, are extension and/or public service initiatives of the university.

THE QUALITY ASSURANCE FOR CONTINUING EDUCATION PROGRAM (QACEP) FRAMEWORK

The University College Cork (2011) proposed a framework that is specific for CEP based on the Plan-Do-Check-Act (PDCA) cycle. It is a problem-solving process emphasizing that continuous improvement must start with "careful planning, lead to effective action, go through monitoring and improvement, and revisit the planning stage again resulting in an improved activity" (p. 22). Therefore, the framework is organized into four parts with the following phases:

- Planning and Design
- Implementation and Delivery
- Programme Monitoring
- Programme Improvement

Following the QACEP framework, the UPOU-FMDS-CEP adopts the practices and procedures in the respective phases below:

Planning and Design

Course Proposal Development

The proponent submits a course proposal to the Faculty Dean through the Continuing Education Committee (CEC) following the UP System's format/ template of the proposal for the new program with some modifications. Every course offered in the program begins with a course proposal. It has to be based on the felt/identified needs of its target course participants as clearly defined in its course objectives and expected learning outcomes. Moreover, the proposed course must be highly relevant to merit recommendation for course development. To validate its presumed need, a market survey is required from the course proponent, which forms part of the course proposal. Projected costs of course development and course delivery must also be included in the proposal for the allocation of funds.

To ensure the quality of its continuing education non-formal courses, the FMDS, through the Faculty Dean, constituted the CEC which is tasked to

review and recommend policies and procedures for the development and delivery of continuing education non-formal courses. The committee is also tasked to review and recommend continuing education non-formal course proposals for development and delivery. With the CEP Program Development Associate (PDA) as Chair and selected CEP Course Coordinators as members, course proposals are submitted for the committee's evaluation and endorsement. They convene to review and recommend course proposals and discuss updates and/or concerns on currently offered courses. This, along with other good practices, helps maintain the quality of each course in the program.

The CEC reviews the proposal based on the merits of the course, market needs, budget, and financial analysis.

Once approved, the CEC recommends to the Faculty Dean the development and delivery of the course through the UPOU's Office of Academic Support and Instructional Services (OASIS) and FMDS's CEP, respectively.

Course Development

The CEP through OASIS adopts UPOU's policies and procedures in the development of the course following the contract for resource-based course wrap-around course materials. As indicated in the contract, the resource-based course package refers to a detailed study guide, to both on-line and off-line resources considered to be the core set of materials for a course. If the production of video and audio materials are needed, UPOU shall finance the production thereof following a previously approved budget proposal.

CEC-approved course proposals will be endorsed to the Dean of the Faculty which will then be referred to OASIS through a formal letter addressed to the office head. Mandated to assist in the planning and development of courses and preparation of instructional materials, OASIS plays an important role in the entire course development cycle. It is also tasked to make the necessary request to the UPOU legal office to prepare the contract of appointment of the course development team, which consists of coursewriter/s (i.e., content expert/s), course reader, instructional designer, multimedia specialist, etc. Course writing will commence as soon as the contract is signed and will be completed on or before the indicated schedule. The team works closely to best attain the course's defined objectives. The expected output is a well-written course module designed for effective online learning.

The CEP adopts the OASIS instructional design process and/or resource-based course package approach (Arinto & Bonito, 2015) as key steps in developing the modules in UPOU as follows:

1. planning the course module which includes reviewing the course objectives and course outline; organizing the course content into specific modules, and defining the learning objectives per module;
2. selecting learning resources;
3. designing learning activities;
4. preparing the study guide that specifies the learning objectives for studying the set of resources, the key concepts covered, the relevance and significance of each learning resource included, and how learners should study the learning resources provided;
5. creating assignments for individual and collaborative as well as formative and summative learning activities; and,
6. writing the course guide specifying the learning objectives, course outline, course materials, schedule of learning activities, and assessment scheme/plan.

Implementation and Delivery

Course Delivery

Once developed, the Faculty Dean endorses the delivery of the course to the PDA of the CEP.

CEP then adopts the FMDS's policies and procedures in the delivery of the course following the schedule of offering which is January to May and July to November for the first and second terms of the calendar year, respectively.

The CEP Schedule of Course Offerings for the current and upcoming calendar year are posted and regularly updated on the UPOU website to make them accessible to the wider public.

Identification and Appointment of Course Coordinator (Teacher)

Course Coordinators are identified and appointed from a pool of experts coming from the academe and the industry. As a quality measure, priority is given to those who had excellently completed a non-formal course under the CEP. Once appointed, they are expected to review the course materials to be

used in the offering of the course; prepare a course guide (using the UPOU course guide template); a complete set of assignments (with assignment guides); create the online course site or virtual classroom on UPOU's MyPortal; and, handle at least one tutorial section of the course. Prior to appointment, they undergo a Faculty-In-Charge (FIC) Orientation where the key concepts in ODeL and the roles of an online teacher are discussed.

Figure 1

CEP course development process

Admission

Applicants are advised to submit the following documents to the FMDS-CEP mailer <fmds-cep@upou.edu.ph> (as scanned copy) or through courier/mail (hardcopy) on or before the deadline.

1. Correctly and completely accomplished admission form with photo and signature

    a. Personal data
    b. Employment background
    c. Educational background

2. Photocopy or scanned copy of proof of highest educational attainment (diploma or transcript of records)

    - Minimum academic entry requirement is high school graduate

3. Proof of payment of enrollment fee composed of application fee and course fee

Registration

Interested course participants are to register online through the CEP Online Registration System linked to the course details of each non-formal course on the FMDS microsite. Prior to enrollment, all CEP online registrants shall receive an email announcement on the details of course offerings, with complete instructions on how to enroll in the course they registered in. Only those applicants who have met the minimum admission requirements of the course and completely submitted required documents shall be accepted in the program.

Documentary requirements may be personally submitted to the FMDS office, sent through posted mail/courier, or online via FMDS-CEP mailer within the enrollment duration. Submission of requirements will be acknowledged upon receipt and shall be carefully checked before processing. Details of officially enrolled students will be encoded in the CEP Class List and will then be shared with the MyPortal administrator for the issuance of MyPortal log-in credentials (username and password). It will be received by the student one week before the start of classes or as soon as the course site is up. Enrollment confirmation, along with the UPOU Student Guide to MyPortal, will be emailed to the students as well. Learners must all be on board on or before classes commence. All student concerns are directed to the FMDS-CEP mailer <fmds-cep@upou.edu.ph>, which acts as the program's learner support.

Opening and Course Orientation

Opening and course orientation is conducted and is also done online through the CEP Online Course Orientation site created in the MyPortal. All course orientation videos and other student-related resources are uploaded to the said site to help guide the students in their learning journey throughout the course.

Closing Ceremony

At the end of each term, CEP conducts Closing Ceremonies to honor and recognize its completers and top students from each course. This is held at UPOU Headquarters and also available online via live-streaming for those who cannot be physically present in the program.

Monitoring and Evaluation

At the Faculty level, the Continuing Education Committee reviews and recommends policies and procedures for the development and delivery of continuing education non-formal courses. It also reviews and recommends continuing education non-formal course proposals for development and delivery.

At the Program level, an online questionnaire for learners' evaluation of course delivery, course coordinator, and his/her teaching effectiveness is administered every end of the term (May and November of each year), results of which are shared with the respective course coordinators for improvement purposes. The CEP Team, composed of the PDA and Project Staff, also conducts regular meetings to discuss updates and formulate action plans on issues and concerns in course proposal review, course development, and course delivery.

Adopting the UPOU degree programs' student evaluation of teachers, the UPOU-FMDS-CEP's learners' evaluation assesses the course guide, learning resources, learning activities, discussion forums, student learning, learner support, course site, and course coordinators.

In addition, the PDA and Project Staff of the CEP are given manager access in the respective non-formal course sites for monitoring, and administrative and technical assistance purposes.

Figure 2

CEP applicants' registration to course completion

Continuous Improvement

Based on the Program and Faculty level evaluations, the CEP continuously develops and improves the non-formal course development and delivery under the program, in particular and the CEP, in general through the program improvement initiatives of the FMDS.

In 2017, FMDS-CEP embarked on developing/redeveloping non-formal courses using the resource-based course package (RBCP) approach. The RBCP, normally applied in degree programs of the university, is intended for course developers to plan the course module; select learning resources; design learning activities; prepare the study guide; create assignments; and, write the course guide.

As a follow-through, in 2018, a program review and planning workshop was conducted to review and improve the development and delivery of non-formal courses. Towards improving its course offerings, automation/programming of course delivery from application for admission to certification of course completers was proposed and designed.

Similarly, the CEP courses, alongside the degree programs of the FMDS were considered for evaluation during the strategic planning workshop of the Faculty in 2019. As one of the participating programs, the UPOU-FMDS-CEP is expected to prepare program revision proposals looking into the responsiveness of the program structure and requirements to learners' needs, connections between and among courses, vertical and horizontal alignment, openness/flexibility of the program; course redevelopment plan; submission of article to the FMDS Journal; and, development of new non-formal course/s.

CONCLUSIONS AND RECOMMENDATIONS

With reference to the QACEP framework which fosters the development of a continuous improvement approach, the following important points about ensuring quality in CEP are noted.

In planning and design, the CEC is tasked to review and recommend non-formal courses for development. With the committee, the proposals are assessed based on the merits of the course, market survey, budget, and financial analysis. With the adoption of the OASIS's instructional design and/or resource-based course package approach as key steps in developing the modules, course developers/redevelopers are able to plan the course module, select learning resources, design learning activities, prepare the study guide, create assignments, and write the course guide.

As for the implementation and delivery, the regular schedule of offering which is January to May and July to November for the first and second terms of the calendar year, respectively, facilitates administrative and technical

preparations and arrangements in course delivery. The identification and appointment of Course Coordinators from a pool of experts coming from the academe and the industry ensure the availability of qualified teachers and/or alternates. An applicant who had excellently completed a non-formal course under the CEP is given priority in the selection of a Course Coordinator. This helps in ensuring that the teacher is familiar with how open and distance e-learning works. Prior to their appointment, course coordinators participate in the FIC orientation where the key concepts in ODeL and the roles of an online teacher are discussed. The constitution of the CEC, with the PDA of the CEP as Chair and selected Course Coordinators as members, enables the review and recommendation of policies and procedures for the delivery of continuing education non-formal courses.

In terms of the monitoring and evaluation, the access given to the PDA and Project Staff in the respective non-formal course sites enables monitoring and provision of administrative and technical assistance to the Course Coordinators and learners. The conduct of regular meetings of the CEP enables the discussion of updates and formulation of action plans on issues and concerns related to the course delivery. The administration of an online survey questionnaire for learners' evaluation of course delivery (course guide, learning resources, learning activities, discussion forums, student learning, learner support, course site), and course coordinator and his/her teaching effectiveness every end of the term (May and November of each year), results of which are shared with the respective Course Coordinators, helps improve the course delivery.

The participation of the CEP in the program improvement initiatives of FMDS, such as the development/redevelopment of non-formal courses using the resource-based course package approach, program review and planning workshop, and strategic planning workshop, enables the continuous enhancement of the non-formal course development and delivery.

In order to further improve the quality system for CEP non-formal course development and delivery, it is recommended that the adoption of the tried and tested course development and delivery of UPOU formal or degree courses/programs and the four-step QACEP framework such as planning and design, implementation and delivery, monitoring and evaluation, and continuous improvement be sustained. The ultimate aim should be the enhancement of the development and delivery of non-formal courses under the CEP and it is important that stakeholders are engaged in the process.

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CHAPTER 8

Towards a Quality Culture of Research and Publication at UPOU

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ABSTRACT

Anchored on the flagship program *Saliksik*, the chapter describes University of the Philippines Open University's (UPOU) efforts to institute a culture of quality research and publication. The initiatives are aimed at providing an enabling environment to strengthen research capability of UPOU faculty, Research, Extension, and Professional Staff (REPS), and staff and enhance research and publication productivity of the university. To ensure relevance, rigor, and ethical considerations, the important roles of its research and publication review and ethics committees are presented.

INTRODUCTION

The institutionalization of quality assurance (QA) in an organization is carried out in each step of managing and conducting the research. This includes "design of the research plan, procurement procedures and competitive bidding, screening research applications, external review of technical merit, ethics review process, contracting research products, and monitoring and evaluating implementation" (World Health Organization [WHO] Kobe Center, 2018, p. 13). Thus it is important that the university develops guidelines addressing research standards.

One of the mandates of the University of the Philippines (UP), as stipulated in RA 9500 (An Act to Strengthen the University of the Philippines as the National University, 2008), is for UP to be a Research University. The University of the Philippines Open University (UPOU), being one of its constituent universities, is answering this mandate through enabling mechanisms to enhance research productivity and to establish a research and publication culture in UPOU. During its strategic planning exercise, UPOU identified Research and Publications as one of its main thrust. Under this thrust is the Strategic Program called *Saliksik*, a Filipino term that translates to Research.

SALIKSIK*:* A STRATEGIC THRUST of UPOU

With the Saliksik thrust of UPOU, many of the efforts to provide an enabling environment for quality research productivity were put in place. The Saliksik program laid out strategic goals aimed at providing support to faculty members and researchers in producing quality research. The research program was operationalized in terms of: (1) directing research efforts towards open and distance e-learning (ODeL); (2) encouraging the translation of research to publications; and, (3) increasing support to research and publications undertakings.

State of the Art Research on ODeL

As the leading institution advocating ODeL, UPOU encourages research along this area in addition to disciplinary areas of its faculty members and researchers. One of the criteria for a university-funded faculty research grant (FRG) is the inclusion of a focus on ODeL. Faculty members and staff are given an incentive to do research that will contribute to the body of knowledge on ODeL.

Every year, the university allocates start-up research funds for each of its faculty members, researcher, and administrative staff to encourage the submission of research proposals and eventually complete research for publication and presentation especially in forums and conferences on ODeL. Recently, the university has approved another facility to encourage collaborative research. In its policy statement, UPOU reiterates that it encourages collaborative research among its faculty, Research, Extension, and Professional Staff (REPS), and administrative staff in the spirit of scholarship. Researchers are expected to engage in collaborative research with peers both locally and internationally. Towards this end, anyone and everyone who contributes to collaborative research and who is in a position to initiate collaborative research undertakings and eventually present research findings could be supported by the university through the collaborative research grant (CRG). It is one-time financial assistance in the form of a grant for participation in face-to-face or virtual meetings locally or abroad among two or more college/universities engaging in significant and sustained interdisciplinary/multidisciplinary research both within the context of open education that will result in a project with sustainable outcomes beneficial not only to the collaborative partners but also to the nation and the world as a whole.

To encourage research on ODeL and thereby thicken the literature, one criterion for funding is the inclusion of some aspect of open and distance learning in the proposed research. Being a pioneer and a leader in the field of ODeL, the university sees its primary role in researching and producing scholarly publications that capture the philosophy, experience, and practice of ODeL. It is hoped that such research will fill a gap in the theory and practice of ODeL, a mandate UPOU has to fulfill.

Research-Publication Continuum

UPOU aspires for a culture of research that completes the research cycle up to the point of publication. Towards this end and as a form of support to its faculty, researchers, and staff, UPOU has provided opportunities through its various publications. Under its publication program, UPOU publishes academic books, discussion paper series, monograph series, and e-journals. UPOU publishes academic books that have been submitted and approved as book projects. It could be on ODeL and/or in various disciplines supporting UPOU's academic programs. These are published as open educational resources (OERs) in support of its teaching function. UPOU e-journals include online journals relevant to ODeL and the disciplines that are open

access, refereed, and published under a Creative Commons license by the academic units in UPOU. Currently, UPOU publishes two open-access, peer-reviewed online journals in English committed to the promotion of ODeL - the International Journal on Open and Distance e-Learning (IJODeL) and the Journal of Management and Development Studies (JMDS) - published bi-annually and annually, respectively.

Additionally, UPOU encourages publication in its in-house monograph series which focuses on areas of interest that were initially presented in various academic forums conducted by the university. The Conversation Paper Series is UPOU's attempt to capture and share innovative ideas that could impact the way teaching and learning are carried out through open and distance learning (ODL) and the operations of ODL institutions in hopes of sparking further conversation on salient topics that are seen to have policy and operations implications by publishing these research-based ideas as an OER. Recently, a new series has been devoted to a specific topic on "Futures Research" which feature talks to serve as a reference in charting future scenarios in various fields of application. Its direct application to the UPOU context is in the university's initiative to articulate the so-called University of the Future.

Support to Preparation of Research and Presentations

Aside from the start-up funding support and provision of analytical tools for research, the university has instituted, *Research Conversations*, a series of forums intended to support researchers by providing them an opportunity to come together in a non-threatening environment to discuss research concepts, methodologies, and findings. Organized weekly at the end-of-week by the Office of the Vice Chancellor for Academic Affairs (OVCAA), the Friday session is held in a venue with running coffee, library search support service, expert advice from senior faculty, and researchers who are in attendance. At times, this also becomes an occasion for peers to come together to collaboratively write abstracts or to trial-run presentations for conferences, thus boosting each others' research confidence. During special sessions, invited speakers share their research interests and experience.

To institutionalize and strengthen support for research, the OVCAA proposed the establishment of research-related services to include analytical and editorial services for students, faculty, and staff. This research support service caters to both internal and external research initiatives conducted

by these UPOU stakeholders. As such, it serves as a platform that enables researchers by linking them up with consultants and experts who can provide assistance in: (1) the selection of appropriate statistical analysis tools; (2) statistical data analysis and interpretation of results; and, (3) technical assistance in proofreading and formatting of manuscripts of theses, dissertation, and journal article submissions.

QUALITY SYSTEMS IN UPOU

The initiatives being pursued under the Saliksik thrust need to be backed up by systems that will ensure the quality of research and publications. Here, we describe the processes that guide the university in: (1) selecting the research it will fund; (2) ensuring ethical concerns have been considered; and, (3) publishing knowledge products arising from research.

Research and Publication Guidelines

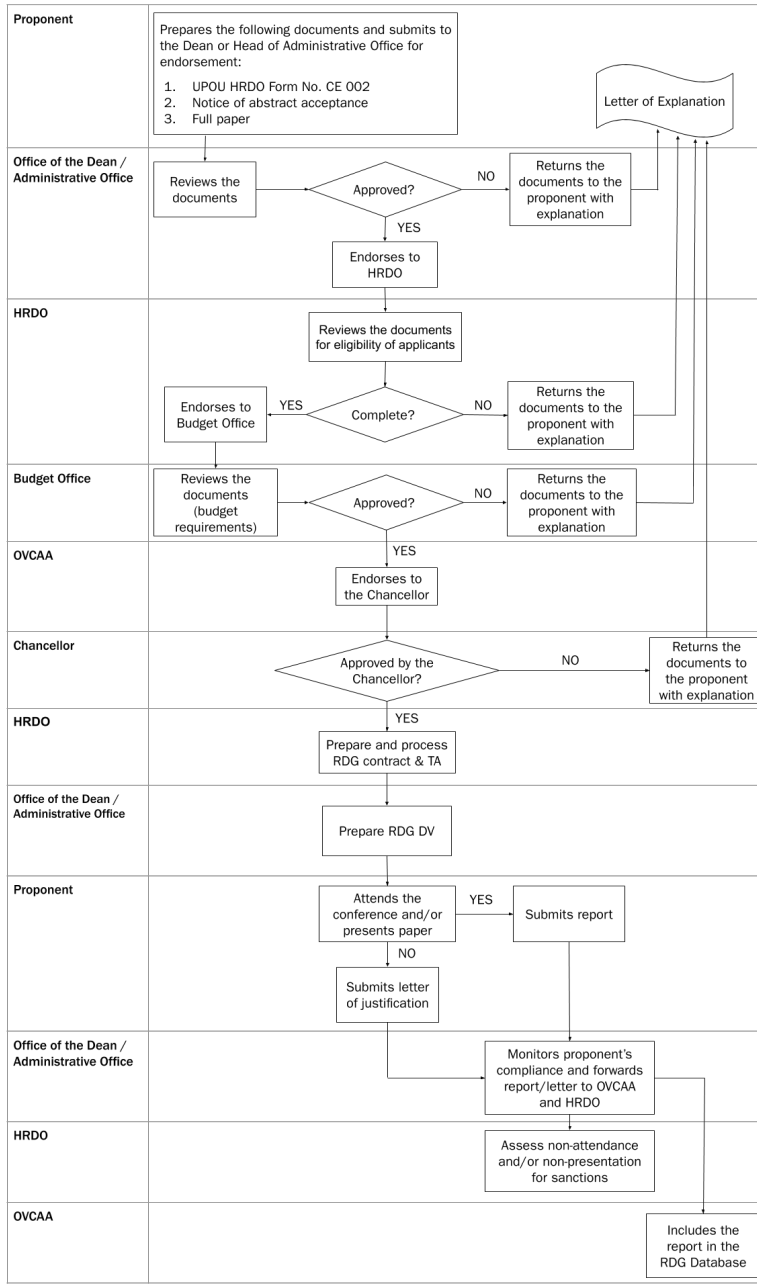
The Research and Publication Committee (RPC) is charged with the function of selecting fundable research and initially evaluating proposals to publish academic books. As such, it employs a multi-level approach (Figure 1) whereby Faculty-level RPCs initially screen and recommend improvements on research proposals and finally endorse these to the University level. Once approved, the research is monitored. It is the intent of the university to develop a digital monitoring system that will be dovetailed unto the proposal selection process and the ethics review process.

The university-level RPC oversees the university's research policy by performing the following functions: (1) review and approve research proposals and protocols of UPOU faculty, REPS, and staff, (2) recommend the awarding of a research grant to the Chancellor, (3) draft, review and revise Research and Publications Guidelines, (4) promote and organize venues for research dissemination, (5) monitor approved research grant proposal, and (6) maintain a database of all research. It acts as a "second lens," with the respective Faculty RPC acting as the "first lens," in ensuring that research outputs at UPOU are of high quality by following the process flow in Figure 1. UPOU provides financial support for quality research based on university thrusts, as expressed in its strategic plan. The evaluation process follows a checklist approach to categorize the submitted research proposals according to research focus: (1) ODeL, (2) disciplinal, (3) operational, (4) combination of those types. Further, potential benefits of the research are categorized

according to contribution to: (1) Body of Knowledge (theoretical or practical application), (2) Methodology (quantitative, qualitative or mixed methods), and (3) UPOU's flagship programs (QAlidad, Saliksik, Innovate, FLEx, ACessUP, UPOU Connected, openUP, Mission RA 10650, Plaza, e-FA3.0, Care UPOU, TAYO, Sustainability). Furthermore, research is evaluated according to: (1) originality of research, (2) adequacy of research design, (3) sustainability of methods, and (4) ethical soundness. Tracking the progress of all the research done at UPOU is bound to the project management system of monitoring.

Figure 1

Process flow of research approval followed by the Research and Publications Committee of UP Open University

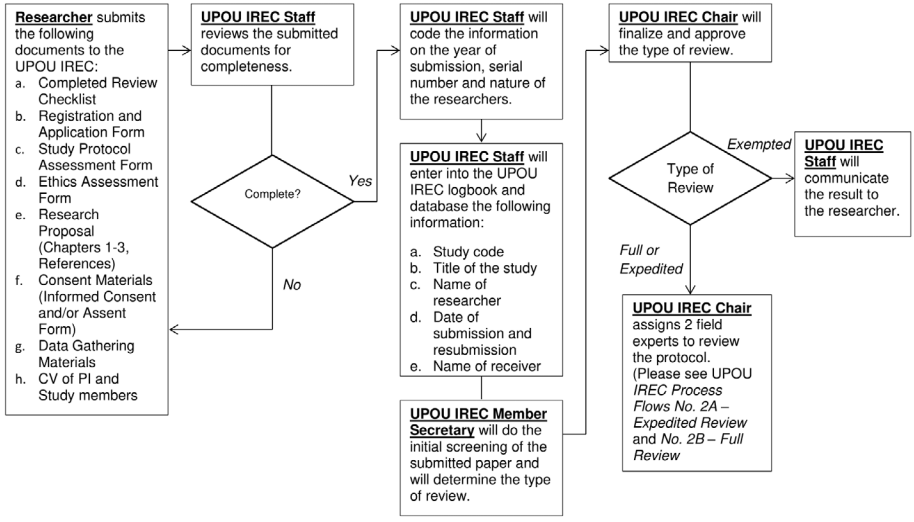


Research Ethics Review Guidelines

Recently, the UPOU Institutional Review Ethics Committee (UPOU-IREC) has been accredited by the national accreditation ethics review board. With the accreditation, this will further pave the way for UPOU to apply the highest standards in all its research undertakings aligned with global ethical standards. In addition, the accreditation of UPOU-IREC by the Philippine Health Research Ethics Board (PHREB) acknowledges that UPOU has put in place an acceptable process of ensuring that there is an evaluation of research ethics conducted by its constituency. Following the Standard Operation Procedures set-forth by PHREB, UPOU follows the protocol review pathway as in Figure 2.

Figure 2

Pathway process of UPOU ethics review



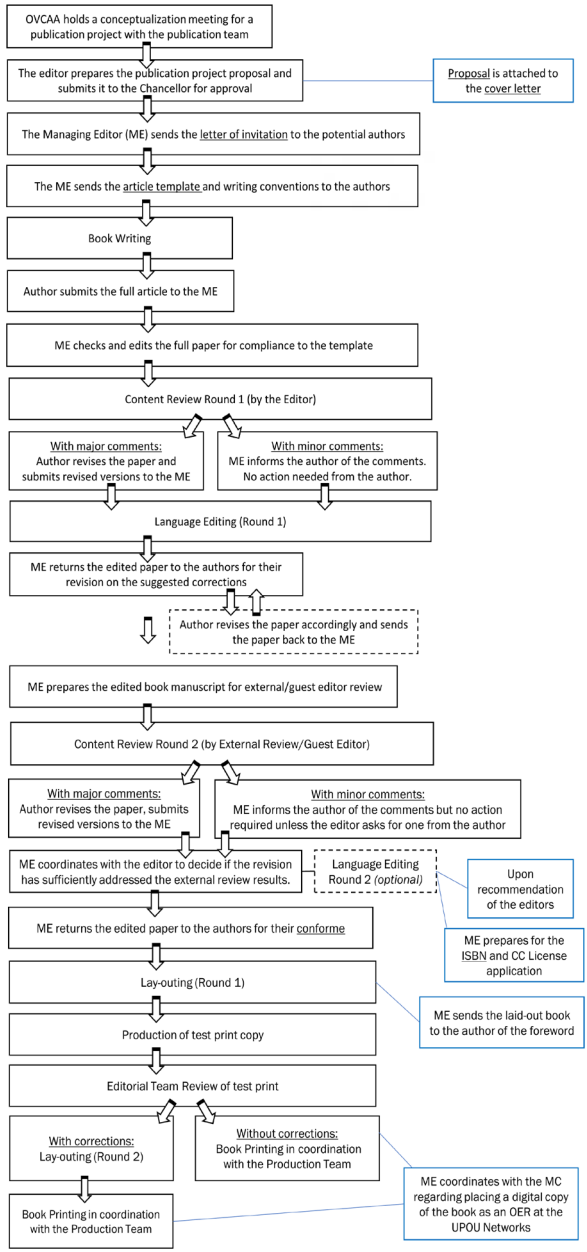
Publication Guidelines

Dissemination and publication of research findings is an integral part of a research process. It is both beneficial to the researchers and the target stakeholders; it helps in increasing awareness that maximizes the impact which can help improve the target outcome as it is a cycle of research to dissemination to publication. At UPOU, research dissemination and publication is encouraged.

As earlier mentioned, initial evaluation of proposed publications go through the RPC. Once approved, UPOU follows a publication process as in Figure 3.

Figure 3

General flow of the publication process



CONTINUOUS IMPROVEMENT FOR A QUALITY CULTURE OF RESEARCH

As with any higher education institution, UPOU aspires to establish a research culture that reflects quality in all aspects of the research-dissemination-publication cycle. While it has put in place quality systems, it also recognizes the need for continuous improvement in these systems. Digitization of these systems that will integrate proposal submission, evaluation, ethics review, and monitoring of research is a priority concern.

The weekly Research Conversations forum will continue to be used as a venue to enrich research methodologies. The Futures Research Conversation series brings together individuals with specific research interest and expertise to develop cutting-edge research in relevant disciplines and in ODeL. To further capacitate UPOU faculty, REPS, and staff, UPOU will continuously provide the needed support in terms of identifying high-impact journals and conferences where they can disseminate research findings. All these are expected to engender a quality culture in research and publication.

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CHAPTER

Redefining Quality in Public Service through UPOU's *OpenUP*

9

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ABSTRACT

The University of the Philippines Open University (UPOU) continues to play a leading role in Open and Distance e-Learning (ODeL) in the Philippines. As part of the UP System, UPOU adheres to the university's mandate to lead as a public service university. UPOU is uniquely positioned to serve various forms of communities, especially the sectors not normally reached by other constituent units of the UP System. With this, UPOU established the flagship program OpenUP. This chapter discusses five public service initiatives under OpenUP serving and assisting UPOU's stakeholders—Massive Open Distance e-Learning, UPOU Commons, Teacher Development Program, Digital Literacy, and Technology-enhanced Capacity Building.

PUBLIC SERVICE IN THE UNIVERSITY OF THE PHILIPPINES OPEN UNIVERSITY

As part of the University of the Philippines (UP) System, the National University of the Philippines, UP Open University (UPOU) adheres to the university's mandate to "lead as a public service university by providing various forms of community, public, and volunteer service, as well as scholarly and technical assistance to the government, the private sector, and civil society while maintaining its standards of excellence" (Official Gazette, 2008, Section 3d). As the cyber campus of UP, the UPOU is uniquely positioned to serve various forms of communities, including virtual communities, and the public better through its thrust and mandate of widening access to quality education, especially to sectors that are not normally reached by other constituent units of the UP System.

For more than two decades now, the UPOU continues to play a leading role in Open and Distance e-Learning (ODeL), not just in developing quality programs and producing quality research, but also in providing quality public service. UPOU's mission is to provide access to quality higher education to Filipinos everywhere through innovative methods of teaching and learning that are designed to be responsive to their needs as well as to national development priorities. UPOU upholds the values of scholarship, academic excellence, academic freedom, humanism, social responsibility, and service to the nation (University of the Philippines Open University [UPOU], n.d.).

According to Bandalaria and colleagues in 2020, with this mission as its guiding philosophy, the UPOU established *OpenUP* in 2016—one of its flagship programs that focuses on widening access to continuing professional education; providing digital opportunities to communities; providing venues for discussion of relevant issues in the society; and, providing technical assistance to higher educational institutions (HEIs), local government, people's organizations and civil society. With the enactment of the Republic Act 10650 (Open Distance Learning Act), UPOU has been given a crucial task of assisting relevant national agencies, HEIs, and technical and vocational institutions in developing their distance education programs through training, technical assistance, research, and other academic programs.

This chapter discusses five best practices in terms of providing quality public service to UPOU's stakeholders. It is argued that quality in public service can be defined as the provision of services and assistance that is aligned to its

mission—access, equity, inclusiveness, and social commitment. Although the UPOU has a number of quality public service initiatives, this chapter focuses on the following public service initiatives: Massive Open Distance e-Learning (MODeL)—UPOU's platform for Massive Open Online Courses (MOOCs); UPOU Commons—Repository of UPOU-produced Open Educational Resources (OERs); Teacher Development Program; Digital Literacy; and Technology-enhanced Capacity Building.

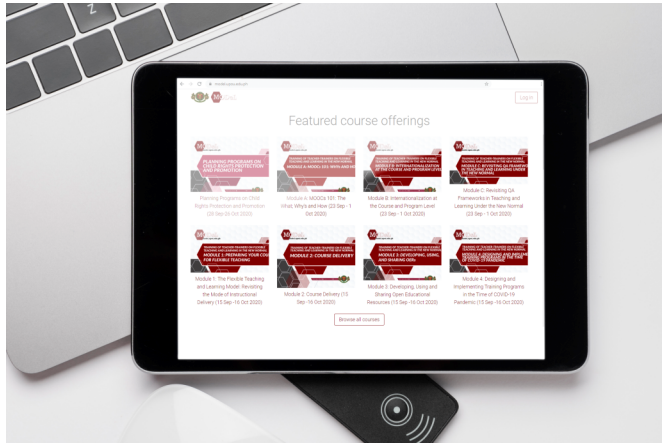
Massive Open Distance e-Learning (MODeL)

The Massive Open Distance e-Learning (MODeL) is UPOU's platform that provides learners with a secure and integrated system to create personalized learning through Massive Open Online Courses (MOOCs). MOOCs are online courses open to the public for free. MOOCs target a number of learners all over the world to share and learn from other learners. In the Philippines, UPOU pioneered the offering of MOOCs through MODeL. In 2013, UPOU offered its first MOOC, Introduction to Mobile Application Development Using Android. This course was recognized during the 49th Anvil Awards held on 26 February 2014 and received the Merit Awards in the PR Programs Merit on a Sustained Basis under the Education/Literacy Category. The course aimed to equip students with the necessary skills and know-how to deploy android applications for android phones and tablets. It was developed and offered in collaboration with SMART Communications, Inc. Since then, UPOU has developed a number of MOOCs with the aim of making education more open and accessible, and promoting lifelong learning. Courses offered are clustered under the following categories: ASEAN Studies; Child Rights Protection and Promotion; Distance Education (DE) Readiness; eFilipiniana; eService Management Program; Interlocal Cooperation; ODeL Teacher Accreditation; Sustainable Development; and Technology for Teaching and Learning. UPOU MOOCs can be accessed through http://model.upou.edu.ph (see Figure 1).

The idea of offering MOOCs in UPOU materialized in 2011. More than accommodating thousands in enrollment, UPOU emphasized the *openness* of these courses. Being more *open* reflects UPOU's practice of using only OERs, producing OERs, and employing open-access software in its MOOCs. UPOU recognized the potential of MOOCs in reaching a wider audience, to make education more open and accessible, and to promote lifelong learning. It is also perceived to be capable of improving the quality of teaching and learning by fostering open educational practices (OEP).

Figure 1

The UPOU Massive Open Distance e-Learning platform



UPOU Commons

The UPOU Commons is a repository of UPOU-produced OERs. OERs are educational resources with open licenses, available for free, online, and can be used by anyone. UPOU is a staunch advocate of OERs as it believes that OERs that are well-designed and implemented can help achieve Sustainable Development Goal (SDG) 4 which aims to ensure inclusive and quality education for all and promote lifelong learning. Through the UPOU Commons, the public can access learning resources that have been developed and produced by UPOU. These resources feature experts on content such as science, mathematics, technology, sociology, communication, arts, etc. These experts are not just from UPOU but also from other UP units and academic institutions. OERs from UPOU Commons can be used by teachers and students to improve teaching and learning. Examples of these OERs are on Technology for Teaching and Learning which have been funded by UNESCO and produced for teachers to improve their competencies on information and communications technology (ICT). UPOU OERs can be accessed through https://networks.upou.edu.ph/upou-commons/ (see Figure 2).

Figure 2

The UPOU Commons via the UPOU Networks

Teacher Development Program

The Teacher Development Program through Distance e-Learning (eTDP), a joint initiative of UPOU, Quezon Power Ltd, Mauban local government unit, Department of Education-Quezon and UPOU Foundation, Inc. is one of UPOU's community engagement programs that aims to improve the quality of education in the public elementary and high schools in the municipality of Mauban in Quezon province. Launched in 2005, this public service initiative intends to upgrade the knowledge and skills of the teacher-scholars. The program consisted of support for non-formal training programs and courses such as teaching strategies, integration of computer and internet use to teaching and learning, and scholarship grants to the Diploma and Master's programs offered by the university (Bandalaria et al., 2020). eTDP participants also undergo specific training programs to enhance their skills associated with effective teaching. As of 2017, it has trained 132 teachers, and more than 100 teachers have successfully completed their degree programs at UPOU. Based on the impact evaluation done in 2016, virtually all teacher-scholars who are part or have become part of the program claim that they apply the skills and knowledge they

> gained through the eTDP in their current work. Results further indicate that the program somewhat aided in the participants' career development.
>
> The TDP was a recipient of the UP 2nd Gawad Pangulo: Award for Excellence in Public Service, given on 5 December 2017. The Award recognizes the outstanding public service initiatives of UP constituent universities that exhibit compassion to the people the University serves. The program was also bestowed with the International eAsia 2011 Award and International Good Practice on Lifelong Learning Award.
>
> One of the major accomplishments of the program, aside from its training, was the establishment of an e-Learning Ville in Mauban, Quezon through partnerships with the Office of Congressman Mark Enverga, PLDT, Intel Philippines, National Computer Center, and DOST. The e-Learning Ville is a model that combined the concepts of a Community eCenter and Learning Town (Bandalaria et al., 2020, p. 45).

Moving forward, eTDP has evolved to include other professions that would lead to more holistic development of the municipality. Among the possible components of the program, as identified by the stakeholders, are the following: training for the school principals; training on disaster risk reduction management; and, training of other professionals involved in programs that are geared towards people development.

Digital Literacy

PLDT InfoTeach Outreach Program

As the country's premier educational institution for open learning and distance education, the UPOU takes its share keeping Filipino students and teachers competitive in the global landscape when it comes to their knowledge in technology. One remarkable initiative of the UPOU in this respect is the InfoTeach Outreach Program. Through the UPOU Faculty of Information and Communication Studies, this program is in partnership with the Philippine Long Distance Telephone Company (PLDT), Intel-Philippines, Department of Education (DepEd), and Technical Education Skills and Development Authority (TESDA). The program aims to enable the participants

to acquire the necessary digital skills for 21st-century teaching, learning, and working.

Since its inception in 2013, the program was further improved to make the training curriculum responsive to the external dynamics that impact education. The program promotes digital literacy and maximizes the use of information and communication technology (ICT) to empower the Filipino. Through ICTs, the programs aimed to provide access to education and information, employment, and social inclusion. It also aimed to help teachers cope with the K-12 curriculum requirement of integrating modern technologies in teaching. Overall, students and teachers were trained on the use of computers and the internet as productive tools to enhance the instruction process to make learning enjoyable (Bandalaria et al. 2020, pp. 42–43).

The InfoTeach Program focused on four major items under digital literacy, namely: learning to use the tools responsibly; responsible use of digital spaces and resources or be a responsible netizen including compliance with the relevant laws and legal provisions; other 21st century skills like leadership, communication, environmental concern; and, use of digital skills for lifelong learning which is along the line of Education Agenda 2030 of the SDGs. With five phases of the program, the UPOU continues to contribute to efforts in achieving national development by providing greater access to quality education and bridging lifelong learning opportunities for Filipinos worldwide.

As of 2017, the program has already produced 523 Master Trainor and Trainers, 5,627 teachers, and 6,067 students from public high schools for the past three years of implementation. It has reached 435 schools in 45 school divisions nationwide.

Technology-enhanced Capacity Building

Youth Capacity Building and Exchange Program toward Sustainable Development and Conservation of Ifugao Rice Terraces (#Y4IRT)

> The Youth Capacity Building and Exchange Program toward Sustainable Development and Conservation of Ifugao Rice Terraces (#Y4IRT) is a collaborative project between UPOU, Kanazawa University, Ifugao State University, and Ifugao

> Provincial Government. Funded by Mitsui & Co, Ltd., Y4IRT recognizes the need to continue to address the extensive problems that still confront the Ifugao Rice Terraces (IRT) despite various conservation efforts. Terrace erosion, unregulated tourism activities, loss of indigenous knowledge, and out-migration of young Ifugaos are among those problems which ultimately result in the lack of succession in the farming and management of the IRT (Bandalaria et al., 2020, p. 44).
>
> The project aimed to empower Ifugao youth with both the knowledge and leadership capabilities to sustain the IRT landscape. Y4IRT intends to allow them to learn about the Ifugao culture and respect their values and way of life, to learn from each other to promote a holistic view of rural and urban linkages, and to appreciate the interconnectedness of these systems which hopefully will result in a decrease in rural-to-urban migration as well as stimulate economic development, strengthen food security, and preserve the rich cultural and environmental heritage of the Ifugaos (Bandalaria et al., 2020, p. 44).

Y4IRT trained local community leaders on nature and culture studies, and Satoyama research methods including information technology, ecotourism, and agribusiness. Among the project activities was the development of tablet-based training modules and exchange programs for select Ifugao and urban youths. The project produced a total of 25 youths who are more concerned and more involved in the conservation and sustainable development of the IRT. Related to #Y4IRT is another project, the Contextualization of the Instructional Materials for the Training of Youths toward Conservation of Ifugao Rice Terraces as a Satoyama Landscape, funded by the Satoyama Development Mechanism (SDM) in 2018.

The SDM project developed translated instructional materials, developed in the Y4IRT project, using Tuwali and Ayangan—the identified most common Ifugao languages. This project aimed to provide the Ifugao communities with updated information on the IRT as a Satoyama landscape, its biodiversity status, ecosystem services, and the importance of the Ifugao culture and heritage. Using the local language leads to a better understanding and appreciation of a subject matter than another learned language.

Aruga sa Batang may Cancer (ABC) Initiative

Aruga sa Batang may Cancer (ABC) Initiative is a web-based palliative care service provider in the Philippines by the FMDS in partnership with Philippine Children's Medical Center (PCMC) and funded by the Department of Science and Technology Philippine Council for Health Research and Development (DOST-PCHRD). The project was formally launched on 22 March 2018 at the PCMC in Quezon City, with representatives from collaborating agencies such as the Ruth Foundation for Palliative Care and Education, DOST-PCHRD, fellows from PCMC, and other guests. Aside from these institutions, the following are also the project's partners: Department of Health, Bicol Regional Training and Teaching Hospital, Cebu Doctors' University Hospital, Southern Philippines Medical Center, Vicente Sotto Memorial Medical Center, Kythe Foundation Incorporated, and John Wayne Cancer Institute.

The ABC Initiative aims to give children with cancer, caregivers, and other healthcare providers access to information, services, and experts related to pediatric palliative care. This palliative care service provider can be accessed through its website (https://arugaproject.com).

The website has the following features: (1) a telemedicine system in which online consultations for pediatric palliative patients can be done remotely to help ease the burden of children and their families; (2) two learning management systems that house online training courses on pediatric palliative care for health professionals and information resources for primary caregivers who want to learn more about caring for pediatric patients with cancer; and (3) Pediatric Cancer Registry which contains national statistics on pediatric cancer—information that can help in creating a general picture of the health status of pediatric patients in the country, and in planning the development of future health programs and policies (Aruga sa Batang May Cancer, n.d.).

Blended Learning Course on Entrepreneurship for Germany-Alumnae

The Blended Learning Course on Entrepreneurship for Germany-Alumnae was developed and implemented in 2018. Through this blended learning course, the UPOU and the German Corporation for International Cooperation (GIZ) aim to contribute to the achievement of the SDGs specifically the following: (a) SDG 4: Quality Education; (b) SDG 5: Gender Equality; and, (c) SDG 8: Decent Work and Economic Growth.

The blended learning course was participated in exclusively by Germany Alumnae or women who worked, studied, trained, did internship or research in Germany, was sponsored by a German institution, or took part in training and education programs of a German institution.

It aims to empower women by honing their business skills specifically with the organization, marketing, production, and financial aspects. Since most of the participants are working professionals, the course gave them the chance to acquire quality education through its online nature.

The Blended Learning Course consists of two face-to-face meetings and an online phase. The Online Phase lasted for three months and consisted of four modules namely the Organizational Management Module, Marketing Module, Production Module, and the Financial Management Module. Each of the modules discusses an aspect that is vital to entrepreneurship. Participants were asked to submit learning activities in each module which was later on merged together to generate a business proposal.

The course yielded 11 business proposals which the participants vowed to implement. Ultimately, once their business plans will be carried out, it can generate decent work and contribute to the economic growth in their areas.

CONCLUSION

The UPOU has always believed that public service cuts across its teaching and research functions. In its 25 years of existence, UPOU tried to integrate public service into its core functions and major activities. UPOU is uniquely positioned to serve the public better through its thrust and mandate of widening access to quality education, especially to sectors that are not normally reached by other constituent units of the UP System. Maintaining quality teaching and learning within UPOU, which translates to efficient and effective strategies, processes, and systems ensures the delivery of quality public service initiatives when UPOU shares these practices with its constituents. Through public service programs like those mentioned in this chapter, UPOU attempts to remove barriers (such as geography, time, economics, gender, and age) that have traditionally restricted learners to avail of and access to quality education.

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CHAPTER 10

Benchmarking for Quality of UPOU MOOCs

Al Francis D. Librero

ABSTRACT

Written within the context of the institutional thrusts of the University of the Philippines Open University (UPOU) and its massive open online courses (MOOCs) initiatives this chapter reviewed 29 articles covering MOOC quality assurance. In addition, eight articles providing information and context relating to UPOU were considered in relation to four themes: course completion, student support, assessment, and cheating. Finally, the features of Massive Open Distance e-Learning (MODeL) and how much potential they have in effectively addressing quality issues and challenges in MOOCs were presented.

INTRODUCTION

The University of the Philippines Open University (UPOU), deployed its very first Massive Open Online Course (MOOC), Introduction to Mobile Application Development Using Android Platform, in 2013 (Bandalaria, 2016). This coincided with the university's adoption of what was coined as the Open and Distance e-Learning (ODeL) framework by its then Chancellor, Dr. Grace Alfonso. Since then, efforts of the university in the fields of teaching, research, and extension have been exerted with respect to the ODeL framework.

But its offering of MOOCs remains the most prominent manifestation of these efforts. Dubbed MODeL (Massive Open and Distance e-Learning), UPOU's brand of MOOCs is an attempt to deal with MOOCs issues in general and in so doing, asserting a distinct identity for the university in the ocean of MOOCs worldwide. MODeL is a home-grown framework for UPOU's own brand of MOOCs, emphasizing the importance of considering quality assurance, measures against cheating, investment, and the context of a developing country as building blocks for effective MOOCs for the locale which UPOU finds itself in.

Existing literature and UPOU's experience were reviewed to get a better understanding of issues related to developing and delivering quality MOOCs. As of this writing, there is little literature that goes into detail regarding how UPOU's MOOCs are designed and implemented. There are also no published articles that narrate in detail how well UPOU's MOOCs have actually performed. This chapter attempted to benchmark MODeL against other MOOCs frameworks focusing on the features of MODeL and how much potential they have in effectively addressing the issues and challenges in MOOCs.

An expansive set of the literature of different types is dedicated to the subject of MOOCs. In order to narrow the scope, some context needs to be established—UPOU and MODeL. It should be noted that the MODeL framework gives importance to the realities which developing countries are subject to. However, limiting inclusion to only articles about developing countries yielded a low number of relevant search hits. Furthermore, there are also potentially important lessons to be learned from the findings of research based on developed countries. Therefore, locale did not factor in as a criterion for inclusion or exclusion.

MODeL: UPOU'S FRAMEWORK FOR MOOCs

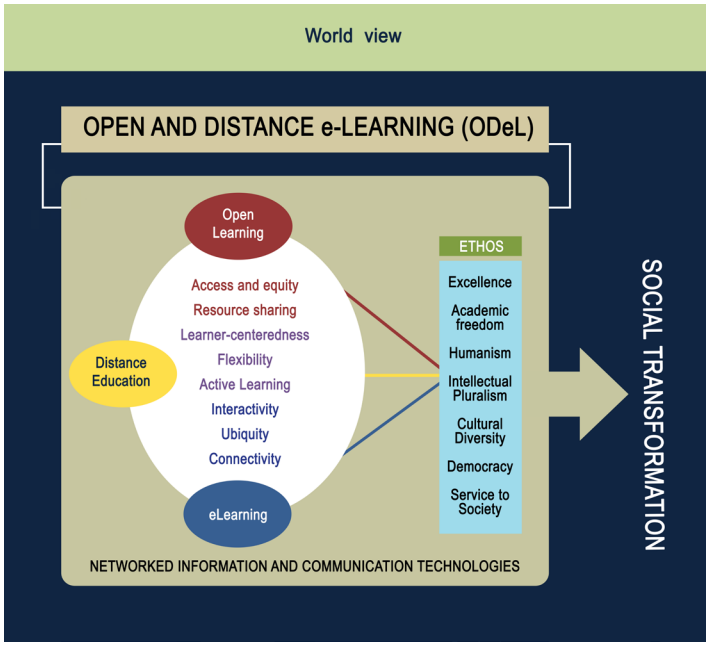
The Commonwealth of Learning (COL, 2000) casts a broad net in defining ODL, noting that it involves one or more of the following: separation of teacher and learner, use of mixed-media for delivery of instruction, and the possibility of face-to-face meetings for tutorials and learner-learner interaction. Ghosh et al. (2012) offered a similar definition, stating that ODL involves teaching that is conducted by someone away from the learner. They, furthermore, propose that it denotes flexibility through allowing for many combinations of strategies and techniques depending on what is suitable in a given instance. These attributes point to ODL being a combination of methodologies of distance education and open and flexible learning (Belawati, 2008).

It would be reasonable to surmise that the first question that would come to mind when presented with the term Open and Distance e-Learning is how it differs from Open and Distance Learning (ODL), which is a much older, broader, and perhaps most importantly, widely known concept. While interrelated, distance learning and e-learning are not necessarily synonymous. In fact, the lack of distinction between the two terms is a cause of "misunderstanding of ICT roles in higher education, and for the wide gap between the rhetoric in the literature describing the future sweeping effects of ICT on educational environments and their actual implementation" (Guri-Rosenblit, 2005, p. 467). Distance education is not always delivered through electronic media, while e-Learning is not always implemented in distance mode.

ODeL was conceptualized by Alfonso (2014) in the face of the UPOU's position as an open university offering online education from within the system of a national university. As shown in Figure 1, it "draws from the features and affordances provided by open learning, distance education and e-learning—access and equity, resource sharing, learner-centeredness, flexibility, active learning, interactivity, ubiquity, and connectivity" (p. 10). This was a pivot resulting from UPOU's shift from more traditional distance learning methods to mediated instruction primarily through the Internet in 2008 (Librero, 2014). Lumanta (2014) would further characterize this as a necessary step to remain agile and responsive to the constantly changing landscape of education and information and communication technologies.

Figure 1

Open and distance e-learning worldview (Alfonso, 2014)

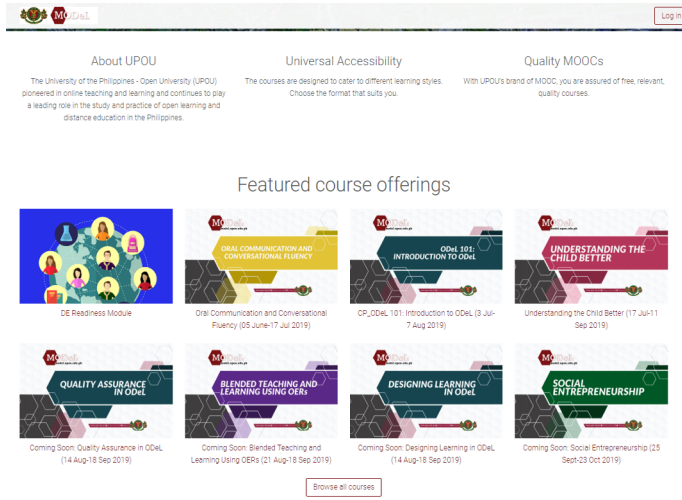


Much like ODeL is to ODL, MODeL, or Massive Open Distance e-Learning (Bandalaria, 2014), is a modification of how a MOOC is commonly conceptualized. MODeL is an attempt to manage issues in developing and deploying MOOCs. While at the same time, it is also meant to establish UPOU's branding and its advocacy of lifelong learning for Filipinos, and by extension, those from neighboring countries. The concept of MODeL was built with a number of key features in mind, most notably those relating to quality assurance.

MODeL (https://model.upou.edu.ph) is also the name of the Moodle-based platform used to deploy UPOU's MOOCs and is regarded as the successor to the old @ral platform. A total of 78 distinct MOOCs under MODeL had been deployed as of 2018. Figure 2 shows the homepage of the MODeL website and displays a sample of courses scheduled to be offered.

Figure 2

Homepage of the Moodle-based MODeL platform (https://model.upou.edu.ph)



While MOOCs have been deployed via MODeL over the last five years, as of this writing, there is but one any peer-reviewed article released that relates any first-hand experiences in implementing the MODeL framework. However, the themes relevant to the MODeL framework are not unique. They have been taken up by external studies that share lessons learned from practices employed.

Early MOOCs Initiatives in UP Open University

UPOU itself entered the world of MOOCs in 2012 under its uLearn Project (Bandalaria, 2014). This was new territory for the university as the nature of MOOCs goes against the exclusive nature of the University of the Philippines and would be offered for free. UPOU set up its first learning management system specifically for MOOCs and given the name *@ral*, derived from *aral* which is a Filipino word that means study. This Moodle-based platform hosted UPOU's first MOOC, *Mobile Application Development Using the Android Platform*. The course's first run attracted 727 registered learners. While deemed successful, issues were encountered during the run, very much like what happened to other MOOCs. These issues cut across several aspects of education, such as quality assurance, availability of resources, and sustainability. These issues are in-line with the issues and challenges

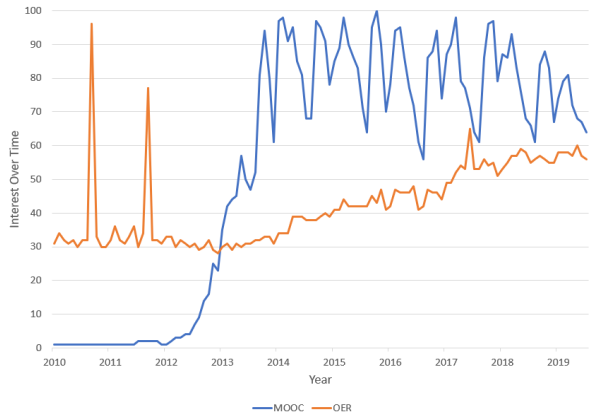
outlined by Arinto (2016) with regard to ODeL, which were classified into two kinds—how to stimulate and how to sustain innovation. Arinto (2016) asserted that in order to address these issues, technical, pedagogical, administrative, and even political considerations must be met in order to bring about innovation and maintain it sustainably.

Features of MOOCs in ODeL context

Massive open online courses (MOOCs) MOOCs have two key features (Yuan and Powell, 2013). First is open access, where "anyone can participate in an online course for free" (p. 6). The second is scalability, where "courses are designed to support an indefinite number of participants" (p. 6). Haber (2014) called MOOC "an education innovation that captures the imagination of the public at large while having at the speed of an Internet startup with good reason" (p. 1). MOOCs emerged and proliferated over the last decade, which came to a head in 2012, dubbed the year of the MOOC (Pappano, 2012). This is when the Big 3 of the industry—edX, Coursera and Udacity–came to prominence. Several elite universities partnered with the three. Weller (2014), observed the sudden surge of popularity of and interest in MOOCs in 2012, and subsequently surpassed open educational resources (OERs) in those terms. A Google Trends query (Figure 3), similar to the one conducted by Weller in 2014, shows worldwide search interest in MOOC surpassed OER in 2013. While the trend fluctuates more so than with OERs, interest has been generally higher for MOOCs, peaking at around 2015.

Figure 3

Google Trends plot of relative interest in MOOCs and OERs from 2010 to 2019 (Google Trends, September 2019)



QUALITY ISSUES OF MOOCs

While there have been efforts to develop quality frameworks for MOOCs—an example of which is the COL Guidelines for Quality Assurance and Accreditation of MOOCs (COL, 2016)—there are still quality assurance issues in MOOCs that have also been covered substantially by research conducted worldwide and a number of recurring sub-themes were found across the literature collected and these include course completion, student support, assessment, and cheating.

Course Completion

The issue of high drop-out rates in MOOCs, as reported by articles such as that of Ghislandi (2016), is a symptom of what the author believes is the reality that the population of enrollees is far from homogenous. People come from different backgrounds and sign up for different reasons, and then they experience the course differently which leads to different outcomes. While the majority of enrollees drop out, there is no single explanation as to why, and making generalizations would be ill-advised. This can be linked to the need for institutions to follow different models. Porter's continuum of changing models (2015) was devised from an economic standpoint, but each model also caters to different needs, such as accreditation. Practically all related literature that MOOC quality assurance implicitly or explicitly acknowledged this observation, which the author believes supports his subjectivist and interpretive viewpoint, as understood through Cohen, Manion, and Morrison (2017).

What can be argued as the most glaring criticism against MOOCs is their high drop-out rates. Exact numbers are difficult to come by due to restricted access to site statistics of major platforms. However, what is known is deemed a cause for concern. The University of Edinburgh offered six MOOCs on Coursera in January 2013, each running for 5-7 weeks (Onah, Sinclair, & Boyatt, 2014). The courses gained a total of 309,628 enrollees. From that total, only 34,850 (roughly 11%) finished the courses to earn a statement of accomplishment. Vanderbilt University's first MOOC, Pattern-Oriented Software Architectures for Concurrent and Network Software, attracted about 31,000 students, from which 1,643 (approximately 5%) earned a statement of accomplishment. Research has yielded a number of explanations for this issue. Yuan and Powell (2013) asserted that MOOCs demand a certain level

of digital literacy, which some might not be able to meet. Onah, Sinclair, and Boyatt (2014) cited a lack of student support as one cause for dropping out. Another point raised was that there are students who prefer to work through the course at their own pace. Khalil and Ebner (2014), framed the issue in a more learner-centric fashion, citing lack of time, varying motivations, feelings of isolation and inadequacy, and lack of desire to deal with hidden costs. Ghislandi (2016) did not necessarily regard the low completion rate as a negative. While not justified clearly, the assertion is that while learning matters, students may not have the same sentiment towards accreditation entailing completion.

As far as helping ensure completion is concerned, it has been suggested that certain tools may also be helpful. Patterson (2018) experimented with employing behavioral tools for students enrolled in a MOOC. He identified students' limited memory and willpower as behavioral issues that impede completion and performance and revealed that, according to his results, employment of a commitment device and distraction blockers can, to some extent, compensate for the innate attributes of memory and willpower.

Table 1

Summary of UPOU MOOCs offering from 2015 to 2018 (Almodiel, Mampusti, & Tanay, 2020)

Year	Courses offered	Enrolled students	Completers	Completion Rate (%)
2015	10	2547	48	1.88
2016	7	857	110	12.83
2017	21	1741	154	8.85
2018	38	2251	441	18.59
Total	76	7396	753	10.18

UPOU's policies on MOOCs mandate teaching presence. This may allude to placing value in course completion as it can potentially address learner completion issues. From 2015 to 2018, the MODeL platform hosted 76 MOOCs (Almodiel, Mampusti, & Tanay, 2020). These courses combined yielded a completion rate of 10.18%. However, the year by year trend offers another layer of information worth noting. While sample size and number of years would ideally need to be larger, there is a noticeable uptrend in

completion rate. Whether or not this can be directly attributed to UPOU's policy remains unclear. However, at the very least, there are signs of potential for increasing completion rates.

Student Support

Weller (2014) and Patterson (2018) independently touched on students' need for self-reliance and self-motivation to ensure success in a MOOC. Milligan and Littlejohn (2017) echoed the same argument and further outlined the driving forces behind them. These include relevance to the current role, learning content, relevance to a future career, and personal interest in the topic. Other possible reasons would be prestige, certification, zero cost, and the opportunity to learn in English. Similarly, Deshpande and Chukhlomin (2017) asserted that along with a rich set of resources, accessibility, and interactivity, support is a key for learner motivation.

Studies prescribe a number of ways to help students stay motivated. Patterson's (2018) employment of behavioral tools has shown evidence that they can improve outcomes, but not necessarily motivation. MOOC design can, however, help with other motivations. The study of Brunton, Brown, Costella, and Farrell (2018) "indicates that a strategic deployment of a pre-induction socialization course, focused on the early stages of the study lifecycle, can positively affect prospective flexible learners' constructions of their expected study experiences in online or part-time higher education" (p. 357).

In an effort to address issues of the lack of support, UPOU has attempted to adopt tools to maintain both teacher and peer presence. Almodiel, Mampusti, and Tanay (2020) related experiences using a combination of the messaging system of the learning management system used, email, as well as social media. It was noted that email remains the preferred method of communication with regard to counseling and tutorial support, which makes sense due to the potential nature of such support. On the other hand, social media proved useful in addressing more general administrative and instructional inquiries. Again, while the study, conducted in 2017 and 2018, coincides with the completion rate more than doubling during this period, a relationship was not definitively established. The results are promising, but more work is required to gather more evidence of this relationship.

Assessment

Articles were found placing emphasis on the importance of assessment as a component of quality assurance. Conole (2015) counted a robust assessment as a key characteristic for an open educational course. Lowenthal and Hodges (2015) pointed out that popular quality assurance frameworks in the United States, such as Quality Matters, consider assessment as a key component. There are, however, issues relating to designing and implementing assessment methods. Xiao, Qiu, and Cheng (2019) pointed out limitations in technology and human resources as one such issue. Another identified hindrance is the open admission of MOOCs. As MOOCs are designed to cater to a wide audience, assessment methods are adjusted and are not typically designed to be rigorous. These assertions are corroborated by Yepes-Baldo et al. (2016). Both sets of authors also argued in favor of diagnostic self-assessment before and during a course's run. As Xiao, Qiu, and Cheng (2019) stated, "including a diagnostic self-assessment at the pre-course stage and continuous assessments with clear guidelines and practice assignments during the course can be adopted to support assessment stringency in credit-bearing MOOCs" (p. 14).

According to Weller (2014), a lot of MOOCs, particularly those found in the major platforms, rely heavily on automatic assessment and peer reviews, which are ways to cope with massive enrolments and help ensure scalability. This, however, banks on the learners' sense of self-reliance, and as the studies on drop-out rates show, this may not be ideal. However, Costello, Holland, and Kirwan (2018) argued the case for multiple-choice questions (MCQ), a mainstay in the automatic assessment. They asserted that it is critical to avoid design flaws when creating MCQs in order to ensure viability as an assessment method in a MOOC.

It is difficult to surmise UPOU's stance on assessment in MOOCs. As it stands, current assessment methods employed generally follow previously established approaches. This leads to the fair assumption that general outcomes would be similar to other MOOC initiatives. There are anecdotes of the intention to offer partial credit in formal UPOU courses for finishing some MOOCs in MODeL. If UPOU follows through on this, it would make sense to put more focus on assessment.

Plagiarism and Cheating

While open access and freedom are considered hallmarks of a MOOC, they do not necessarily follow the same paradigm. Porter's (2015) continuum of charging models illustrate three different charging models: 1) free and open courses, 2) completely closed and paid courses, and 3) a hybrid of the two models. Costello, Holland, and Kirwan (2018) associated paid courses with accreditation, which brings more urgency for not just more robust assessment but also measures against cheating. In any case, Corrigan-Gibbs, Gupta, Cutrell, and Thies (2015) highlighted the insufficiency of relying on student honesty, or honor code, as they call it. As they stated, "we confirm that honor codes--despite frequent use in massive open online courses (MOOCs)—lead to only a small and insignificant reduction in online cheating behaviours" (p. 1).

Like other courses, plagiarism is a significant concern for MOOCs. Alcarria et al. (2018) claimed that one key for curtailing plagiarism would be an enhanced peer assessment system involving a deliberate evaluation protocol and the use of tools, such as Turnitin. Aside from plagiarism, recent literature highlights another method of cheating. Northcutt, Ho, and Chuang (2016) reported on the prevalence of multiple account cheating. Alexandron et al. (2017) referred to this as copying answers using multiple existences online (CAMEO), wherein a student creates and makes use of multiple harvester accounts for collecting correct answers, which would then be submitted through his or her master account, in which credit is intended to be earned. Depending on the scale of cheating at large, CAMEO is a threat that can compromise not just the value of MOOC certification and accreditation, but also the integrity of data and results when conducting research. Much like Alcarria et al. with plagiarism, Alexandron et al. (2017) surmise that a more deliberate method of assessment involving adjustments in instructional design, randomization of assessment, and delayed feedback may prove useful against CAMEO. As they are intricately tied together, the incidence or even likelihood of plagiarism committed can only be determined with an in-depth look at the assessment methods employed by the MOOCs offered. Perhaps more importantly, the relevance of plagiarism in the big picture will have to be decided upon, depending on how the university decides to implement its policy.

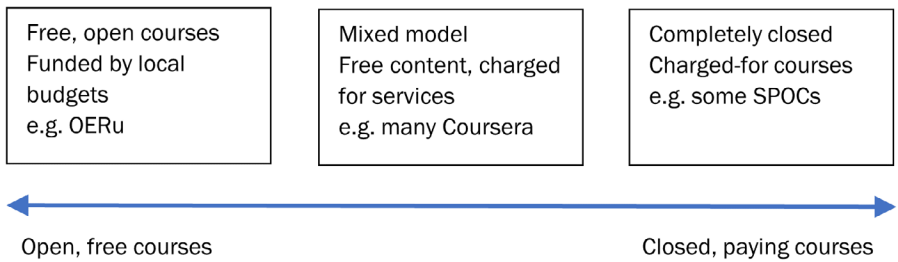
UPOU MOVING FORWARD WITH MOOCs

It is interesting to note that there is little disagreement that can be seen across the literature collected, at least at a conceptual level. MOOCs covered by the literature, presumably scattered all over the world, share common issues, such as low completion rate, flawed assessment, low student motivation, and cheating. However, it is also observed that the different studies were based on different MOOCs which may not necessarily have the same goals, as far as education goes.

Porter's (2015) continuum of charging models (shown in Figure 4), while not fully explored in this chapter, clearly depicts, or at least, implies that MOOCs can have different goals. This further implies that MOOCs will not necessarily place the same levels of importance for each attribute of quality assurance. The level of quality assurance necessarily depends on where a MOOC positions itself in the continuum. The further it shifts towards the right (closed courses), the more stringent quality assurance needs to become.

Figure 4

Continuum of charging models (Porter, 2015)



Existing literature covering MODeL alludes to a move towards something resembling a mixed model approach. Attempting to espouse flexibility and ubiquity (Alfonso, 2014), or remaining agile in shifting landscapes in education (Lumanta, 2014) all but requires it. Therefore, moving forward, it will be critical to determine how open or how closed courses under MODeL are or will be. The sampling of related literature found in this review explicitly provides a substantial amount of findings and information regarding the attributes of quality assurance. But for UPOU, or for that matter, any other institution with a similar vision, it will become a question of how much each of these attributes should be prioritized or valued.

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CHAPTER 11

UPOU's Chatbot: Toward Quality Information Services

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ABSTRACT

As a pioneer in open and distance e-learning (ODeL) in the Philippines, University of the Philippines Open University (UPOU) continues to explore various information and communication technologies in enhancing not just its course development and delivery, but its provision of support services as well. The integration of artificial intelligence (AI)-based tools such as chatbots in an organization's systems and processes promises some degree of streamlining given the increasing demand of customers. This chapter explores the experiences of UPOU in providing quality information through its development and deployment of its first AI-based tool, the UPOU Chatbot.

INTRODUCTION

As a pioneer in open and distance e-learning (ODeL) in the Philippines, the University of the Philippines Open University (UPOU) continues to explore various information and communication technologies (ICTs) in enhancing not just its course development and delivery, but also its provision of support services. Learner support is seen as an important component of ODeL, as it minimizes gaps between teachers and learners. Compared to the traditional mode of learning, learners in ODeL have more responsibility in managing their learning since they have more freedom and opportunity. Hence, learners in ODeL seek information, resources, and guidance for their studies (Moore & Kearsley, 1996). With this, UPOU has implemented various learner support programs and services since its establishment in 1995. These services are presented in Table 1.

Table 1

List of UPOU learner support programs and services

Support Services
Administrative services (admission, enrollment/registration, etc.)
Academic advising
Counseling and guidance
Examination services
Information support (chatbot, email, social media, helpdesk, primer, catalog, website, microsites)
Learning resources (UPOU Networks)
Library resources and services
MyPortal
Scholarships and financial services
Student accessibility
Student activities and organizations
Student Portal
Technical support

In particular, this chapter will focus on the information support services of UPOU. The university has put in place systems and tools to facilitate the provision of these services not just to its students but also to all of its constituents. One of the tools used is artificial intelligence (AI). In recent years, AI has been gaining popularity in the educational domain, where

it is widely adopted to facilitate and enhance learning and teaching. The integration of AI-based tools in an institution's systems and processes promises some degree of streamlining given the increasing demand of constituents. Specifically, UPOU utilized the chatbot.

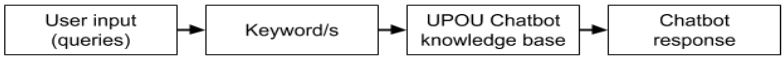
Chatbots have been developed and utilized as early as 1966. These AI-based tools are defined as "conversational agent[s] and computer programs that interact with users in a certain domain or topic through intelligent conversations" (Huang, Zhou, & Yang, 2007, p. 423; Abdul-Kader, 2015, p. 73). These tools are utilized and deployed "for the purpose of seeking information, site guidance, and answering frequently asked questions (FAQs)" (Huang , Zhou, & Yang, 2007, p. 423). In the UPOU, its first chatbot was developed and deployed in 2019 to improve its information support services to its constituents. Almost a year after its deployment, the UPOU chatbot has already catered to many users, from existing students, prospective students, to the interested public. This chapter explores the experience of the UPOU Chatbot's six developers/creators, who shared their narratives through semi-structured interviews, in its operationalization of providing information to its students and the public. To describe these developers, Developer 1 is an externally contracted developer; Developers 2 and 4 are affiliated with UPOU Multimedia Center (MC); and Developers 3, 5, and 6 are affiliated with UPOU Office of Public Affairs (OPA).

THE UPOU CHATBOT

To provide quality information support services to its constituents, the UPOU Chatbot was officially launched in February 2019. This tool is designed to provide automatic, immediate, intelligent, and appropriate human-like interactions and conversations related to UPOU matters when prompted. The UPOU Chatbot system was developed by the UPOU OPA, MC, and Information and Communication Technology Development Office (ICTDO) with an externally contracted developer. It works by detecting and mapping keywords in user inputs (message/query) with the chatbot's knowledge base to generate appropriate responses (see Figure 1). This tool has been available on the UPOU website (through askou.upou.edu.ph) since June 2019 and is integrated into the university's main Facebook page in March 2019 to provide virtual assistance to its users.

Figure 1

Response generation in the UPOU Chatbot



With the release of this tool, the convenience and efficiency of online and instant messaging can now be experienced when inquiring about university-related matters. It functions similarly to a typical chatbox, except that users get to converse with an AI chatting robot. For gender representation, users can converse with either Iska or IskOU (see Figure 2). However, unlike the usual chatbot, the UPOU Chatbot does not necessarily deepen and prolong a conversation with a user. It is a tool that simply and directly answers queries when prompted. Nonetheless, the UPOU Chatbot is intended to enhance engagement with existing students, prospective students, and interested individuals in the university by navigating them through existing information found in the UPOU website and microsites. Various UPOU units and offices contributed to the "intelligence" or knowledge base of the UPOU Chatbot which includes information about admission requirements and procedures, deadlines, degree programs, Massive Open Online Courses (MOOCs), non-formal courses, and academic services among others.

Figure 2

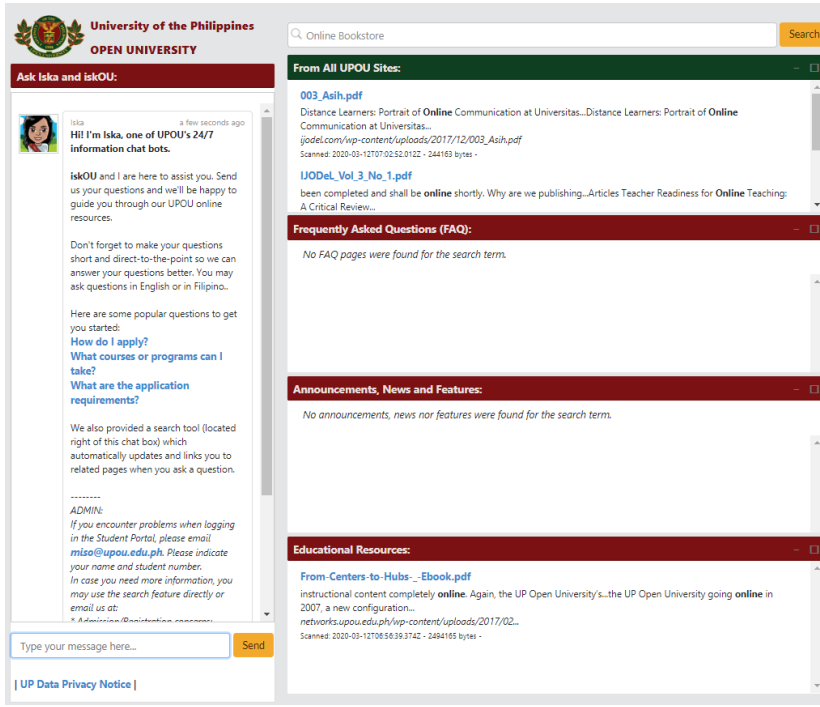
Iska and IskOU icons in the AskOU website (askou.upou.edu.ph)

The UPOU Chatbot offers natural language processing wherein users may ask questions, in either English or Filipino, in a conversational manner. As a bot, it operates through a pre-configured keyword matching system by which it attempts to detect the intent of the user and respond accordingly from a list of mapped messages. Its responses follow a template organized and listed by the chatbot developers/creators. The UPOU Chatbot, in both the AskOU

website (see Figure 3) and UPOU Facebook page Messenger/chatbox (see Figure 4) responds with links to all possible answers from UPOU web pages.

Figure 3

The UPOU Chatbot in the AskOU website



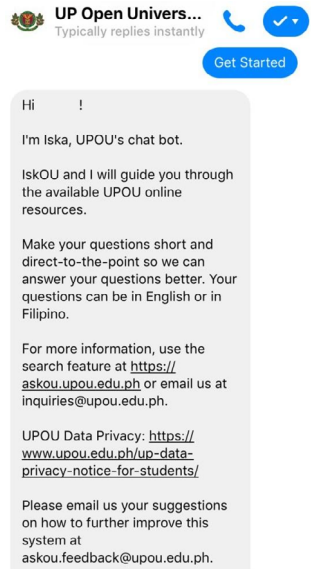
In the AskOU website, aside from a chatbox, a reserved section for FAQs, announcements, news and features, educational resources, and contents from all UPOU websites and microsites are available. AskOU users may also opt to do a direct search using keywords or phrases using the search bar above the webpage. When asking the chatbot, the questions should be brief and direct for the software to address user queries better. Should the keywords or phrases coded be unavailable in UPOU online resources, an automated response will be sent prescribing the user to rephrase their questions, so the software can map them effectively to its preset templates and answers.

Providing information support services can get repetitive and time-consuming. Hence, the frontline staff of UPOU units and offices benefit from

the UPOU Chatbot as the tool lessens the time they spend on responding to student and constituent queries, specifically over social media. Students and constituents also benefit from the tool as they get immediate responses to their queries.

Figure 4

Initiating conversation with the UPOU Chatbot through the UPOU Facebook chat box



PREVIOUS STUDIES

With today's advancements in technology, digital communication through chatbots has been made possible and has become a subject of many published studies. Particularly in education, chatbots have been used as educational tools for learning or tutoring, assessment, feedback, and information support.

As learning or tutoring tools, Heller and colleagues (2005) explored student learning experiences with Freudbot, a chatbot programmed to discuss Freudian theories and concepts, where they found that utilizing a famous personality for a chatbot garnered positive feedback. On the other hand, Schmulian and Coetzee (2008) studied two Messenger bots designed to

act as virtual tutors for accounting, and they suggested that learners are satisfied with chatbots as virtual tutors.

As assessment tools, in 2008, Kerly and colleagues studied CALMsystem, an open learner model environment with an integrated conversational agent, in its provision of discussion facilities, and their study showed that this tool improved learner self-assessment skills. Additionally, chatbots can provide students with "a continuous stream of progress information…allowing them to properly run a continuous assessment effort" (Pereira, 2016, p. 917).

As feedback tools, chatbots were found to "have additional positive effects on engagement indicators and task completion since learners can follow-up with questions on their assessments" (Lundqvist, Pursey, & Williams, 2013 as cited in Winkler & Söllner, 2018). Moreover, Winkler and Söllner (2018, p. 5) state that chatbots "are promising tools to provide continuous feedback to lecturers and students."

Lastly, as information support tools, Hien and colleagues explored FIT-EBot, a chatbot that automatically gives responses to user inquiries about the services of the Faculty of Information Technology, Ho Chi Minh City University of Science. The tool was used as "an intelligent assistant to provide administrative and learning support to students in a higher-education environment" where users gave the tool a satisfactory evaluation (Hien et al. 2018, p. 76). Crutzen and colleagues (2011) also studied a chatbot called Bzz in the field of health promotion to provide information about sex, drugs, and alcohol. The chatbot was evaluated positively for its conciseness, response speed, privacy, and quality of information.

QUALITY ASSURANCE IMPLICATIONS AND CONSIDERATIONS

Streamlining the UPOU customer service through the UPOU Chatbot

According to the developers/creators, streamlining information support is a gap that needs to be addressed by the university, but this concern has taken a backseat to more pressing concerns. To address this gap, they stressed the need for an AI-based tool to further improve information support services. The UPOU Chatbot was an identified approach to have interactive and immediate communication between UPOU and its constituents. Aside from streamlining, the developers/creators also shared information support service gaps that can be addressed by the UPOU Chatbot: staff confidence

in speaking with customers and answering emails; staff knowledge about the information needed by the customer; staff knowledge about who to refer the customer to; staff not skilled to deal with irate customers; and lack of proper training in good information support services. Furthermore, the most common inquiries to UPOU frontline staff were also identified: UPOU programs and requirements, application deadline, document requests, information about online learning, and updates on student grades.

Information about frequently asked UPOU matters was gathered by the developers/creators from all UPOU units and offices. They made sure to consult the appropriate answers to specific queries (i.e., admission) from the concerned staff (admission staff) to ensure validity and completeness. This information makes up the chatbot responses which are organized into templates with appropriate tones.

For monitoring the chatbot performance in the UPOU Facebook chatbox, a UPOU staff has been assigned to read the chatbot's conversations with its users every day and notes its performance per query per day in a database (via Google Sheets). Performance was monitored by documenting the user queries, Chatbot responses, and evaluation of chatbot responses (ability to answer the query completely and correctly). The database is updated every day regularly by said staff, according to Developers 3 and 6. They also shared that when the Chatbot cannot answer the question, the assigned staff, and sometimes the developers/creators themselves, answer the user queries. On the other hand, the UPOU Chatbot in the AskOU site was embedded with Google Analytics by Developer 1. Unlike the chatbot on the UPOU Facebook page, the chatbot in the AskOU site has no monitoring (or reviewing the inquiry/response to/from) yet as the application is still under development. Developer 1 shared, as the chatbot in both platforms "go to the same engine/instance/configuration as the Facebook responder," the developers/creators rely on the Facebook chatbot for monitoring for now.

However, according to Nicastro (2018), key performance indicators (KPIs) should be identified to measure and evaluate the effectiveness and performance of a chatbot. KPIs also ensure the uniformity of monitoring the chatbot over time. Srinivasan, as cited in Nicastro (2018), listed some KPIs for chatbot evaluation: cost of operations and maintenance, number of bot sessions initiated (or conversations prompted), the average number of daily sessions per user, the average daily number of chats handled, number of new users using chatbot (daily, weekly, monthly), overall customer retention

rate, and satisfaction rate per conversation. Aside from the listed indicators, the task success rate in terms of the ability of the chatbot to answer user queries correctly and completely must also be measured.

Listing challenges of the UPOU Chatbot

Challenges discussed by the six developers were classified into technical and general challenges. Identified during the development and deployment stages of the UPOU Chatbot, the main challenges encountered by the developers/creators were: using cloud or on-premise computer servers (decided to reuse in-premise servers); integration with Facebook Messenger; giving character to the chatbot (decided to represent the bot through 'Iska' and 'IskOU', also for gender equality); disclosing that the responder in the Facebook page is a bot (decided to disclose in the starter message of the chatbot); letting the chatbot understand variations of sentence structure, multiple languages, UPOU-unique abbreviations and words, and long sentences; and, distinguishing between a sentence describing background and an actual inquiry (i.e., "I'm a graduate of UPOU's Bachelor of Arts in Multimedia Studies and I would like to inquire about the Diploma in Computer Science [DCS]"—chatbot should translate and simplify the query into interest about DCS). Some of these challenges have already been addressed by the developer/creator team, while the last two are still continuously being improved upon by adding information into the chatbot's knowledge base.

Meanwhile, the general challenges were: requiring university-wide cooperation (for the chatbot's knowledge base), minimizing cost without compromising the chatbot's performance, maximizing manpower without significantly affecting their daily tasks, consolidating a centralized list of FAQs from all UPOU units and offices, crafting chatbot responses with appropriate tone and purport, and upgrading of the chatbot's knowledge base. Most of these "general" challenges revolve around upgrading the chatbot's knowledge base. The developers/creators recognize the significance of each UPOU unit and office in updating the UPOU Chatbot's "intelligence." Although they have already acquired the FAQs from each unit and office prior to the deployment of the UPOU Chatbot, there are still user queries that are not included in those submitted FAQs; hence, affecting the chatbot's "intelligence." Moreover, manpower, from the chatbot developer to the monitor, is the most prevalent issue discussed by Developers 3, 4, and 6. Without such manpower, maintaining and monitoring the UPOU Chatbot would not be possible. However, Developers 3 and 4 shared that

UPOU's manpower is already "multitasking" due to the amount of work. They also stated that upgrading the chatbot's knowledge base to make it more responsive and intelligent according to the new queries is also "additional work" for the staff they will tap to draft the chatbot responses. Developer 6 suggested that a staff can be assigned to work solely on updating the chatbot's "intelligence."

Upgrading the chatbot's knowledge base is an urgent task for the developers/creators. They shared an incident during monitoring wherein the UPOU Chatbot in Facebook cannot completely answer the queries of the user (i.e. if the student asked too many questions in a single message, the UPOU Chatbot only gives answers to only a few of the questions). They noticed that the UPOU Chatbot only recognizes select keywords from the query, and is unable to respond to each question in the query or only responds to queries it has knowledge about. The developers/creators also noticed that when the UPOU Chatbot has limited knowledge about a topic (i.e., it currently only knows about how to shift the *Sablay* or the official academic costume of the University of the Philippines), and a user asks something unrelated to that limited knowledge (i.e., user asks about the price of a Sablay in UPOU), the UPOU Chatbot will still give an answer (it's limited knowledge in this example), but is incorrect.

With this chatbot performance, they highlight the need to update not just the content of the chatbot's knowledge base, but also its ability to recognize and map appropriate responses from query keywords. It was also emphasized that "the ultimate goal is to ensure the chatbots understand the customer's language and know enough about the services in order to understand intent" (Nicastro, 2018, Measure task success rates section). This is significant to maximize the use of the UPOU Chatbot. In line with this, the process of adding new questions asked by the existing/prospective students and the public should be continuous to make the UPOU Chatbot smarter, as also highlighted by Hussain and Athula (2018) in their respective study about chatbots. Aside from upgrading the chatbot, frontline staff should also be trained in good customer service by equipping them with the correct and complete information about the university and its processes just so their knowledge is at par, if not complement, with the UPOU Chatbot. Nonetheless, the developers/creators recognize the fact that "perfecting" the UPOU Chatbot is difficult. Abdul-Kader (2015) supports this remark since chatbots need "a very large database and must give reasonable answers to all interactions" (p. 73).

Integrating the UPOU Chatbot with other UPOU systems

The predominant opportunity discussed by the developers/creators is the integration of the UPOU Chatbot to other University systems. This approach can possibly add to the chatbot's intelligence since it can access the information in these systems and map responses for user queries. According to Developer 1, adopting this opportunity can be "good for improved answers like the status of admission application, exact requirements that the student is lacking, released grades, etc." However, the developers also acknowledge that this would entail more security measures for the chatbot and the integrated systems. Developer 1 also suggested that the chatbot can only respond to such queries "as long as the user is properly identified through trusted sites or channels." The UPOU Chatbot can also be integrated to academic portals (i.e., MyPortal, MODeL) of the university as "first-tier academic/learner support" for faculties-in-charge of UPOU courses (for degree and non-degree programs and Massive Open Online Courses), as described by Developer 6. Manpower is needed for both integration opportunities, and faculty approval may also be needed for the academic integration of the UPOU Chatbot. The developers/creators narrate that once UPOU faculty and staff recognize the benefits and impacts of the chatbot, integrating this tool to the mentioned systems is highly possible.

Aside from system integrations, integrating the UPOU Chatbot to ticketing platforms and emails are also perceived opportunities. Ticketing platforms could direct specific/unique user queries unresolved by the chatbot to frontline staff. Although this may defeat the purpose of having a chatbot, it could still be an opportunity especially for queries that specify their need or frustration to talk to human agents. Perhaps constituent engagement could be retained this way since their queries will still be addressed. And lacing the chatbot knowledge base to all UPOU front liner staff emails' canned responses can reduce the time they spend on answering student queries via email. Although social media pages for UPOU are available for a public inquiry, the majority of queries are still from UPOU students through email.

Additional opportunities or improvements for the chatbot identified by the developers/creators were: initiate conversations (i.e., University surveys, disaster status reports, event promotions) instead of just responding to queries; incorporate chatbot with UPOU's virtual tour (visual elements can be included in chatbot responses, especially if queries are about locations); deploy chatbot to other social media platforms (Instagram, Twitter,

UPOU blog); assist differently-abled constituents (i.e. availability of voice commands); and, assist constituents in far-flung and remote areas with no internet connections through installations of compact computers (i.e., "raspberry pi" as stated by Developer 1) in identified communities.

CONCLUSIONS AND RECOMMENDATIONS

Data showed that Iska and IskOU is a welcomed innovative strategy that streamlines interactions but still needs improvement and integration in other systems and processes in the university. The UPOU Chatbot benefits both the university and the users (existing students, prospective students, and the interested public). The tool streamlines the university's processes and provides immediate responses to stakeholders. It also serves as a foundation for future AI-based tools in the university to improve its various systems. The results of this study can inform the UPOU Chatbot developers of the improvements suggested by the users that need to be done and can inform future developers of AI-based tools in the university. Future studies on the UPOU Chatbot can discuss and evaluate the chatbot using quantitative measures or key performance indicators.

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CHAPTER

12

Developing the AAOU Accreditation System for Technology-enhanced Higher Education in the Age of Technological Disruptions

Grace Javier Alfonso, Melinda dP. Bandalaria, Melinda F. Lumanta, Shaira F. Tanay

ABSTRACT

In today's changing times, open and distance learning (ODL) institutions put a premium on bringing credibility and reputation to their teaching and learning for it to be at par with traditional face-to-face learning. Today, ODL institutions find themselves in need of an evaluation and accreditation system that focuses on technology-enhanced/mediated education. After a series of surveys, in-depth interviews, and focus group discussions were undertaken in Phase 1 of an AAOU-initiated study on Quality Assurance of Technology-enhanced Higher Education in Times of Openness in the Digital Age of Technological Disruptions. It was revealed that in general, most higher education institution officials, faculty, and members of the administration aspire to gain a reputation of quality through accreditation by internationally recognized professional associations. Thus, the Asian Association of Open Universities (AAOU), as an organization that recognizes the use of technology in course offerings, took the initiative to develop an accreditation system that responds to the quality needs for all forms of technology-enhanced/mediated education. This chapter documents the initiative of conceptualizing the accreditation framework and determining the levels of accreditation of a QA-based accreditation system for institutions offering technology-enhanced/mediated programs.

INTRODUCTION

Given the exponential technological disruptions, the changing learning styles of students, and the need for excellent, agile, equitable, and sustainable courses and programs in universities, colleges, schools, and other learning institutions, an accreditation system designed in response to these pressing trends and concerns that are shaping the "university of the future" is an imperative at this time of technological disruptions. Towards this end, the Asian Association of Open Universities (AAOU) Executive Committee created a Task Force to assess the feasibility of AAOU offering open education accreditation services for its member institutions as well as universities outside Asia.

In the field of quality assurance (QA), accreditation has been seen as an essential part of the higher education system. "Accreditation is a public recognition of the achievement of required standards by an organization. It is demonstrated through an independent assessment of that organization's level of performance in relation to the standards" (Thakur et al., 2014, p. 2).

Under a QA framework, accreditation in higher education refers to a collegial process based on self and peer assessment with a purpose to improve academic quality and public accountability.

Accreditation has been defined in terms of "covering both the initial and ongoing approval of a school, postsecondary institution, or program offering as meeting the standards established by a nationally recognized accrediting association"(Commission of Dental Accreditation, n.d, "Definitions and Purposes of Accreditation" section). The end result of the accreditation process is conferment of a status or recognition or license to operate (Vlăsceanu et al., 2007).

There are two basic types of educational accreditation—institutional and specialized or programmatic. "Institutional accreditation normally applies to an entire institution, indicating that each of an institution's parts is contributing to the achievement of the institution's objectives, although not necessarily all at the same level of quality." On the other hand, specialized or programmatic accreditation "normally applies to programs, departments, or schools that are part of an institution". As such "the accredited unit may be as large as a college or school within a university or as small as a curriculum within a discipline" (Commission of Dental Accreditation, n.d, "Definitions and Purposes of Accreditation" section).

In most cases, accreditation or the continuous self-assessment and internal or sometimes external validation drive quality assurance. Aside from ensuring quality in an educational institution, accreditation can also encourage public trust and accountability. Accreditation also facilitates the harmony of recognition of qualifications and facilitation of the mobility of academic personnel. Through accreditation, the various stakeholders of an academic institution develop a common pursuit of the continuous improvement of the academic processes (Ibrahim, 2014). Thus, progressively, quality assurance in education is becoming of paramount importance especially in today's fast-changing and volatile world.

AGE OF DISRUPTION

Education systems all over the world have been moving towards maximizing the affordances of technology for education purposes, specially technology-enhanced/mediated education in both traditional and open and distance learning (ODL) universities. In today's digital era, education is characterized by extensive use of technology-mediated teaching and learning. We hear of Ivy League universities from North America and prestigious European and Asian learning institutions capitalizing on the affordances of technology in the delivery of courses such as the MOOCs courses and the use of OERs. The OERs and MOOCs are manifestations of technology-enhanced/mediated education. The universities have explored and tapped into digital solutions to the challenges of their everyday operations at all levels.

It was the fourth industrial revolution (IR 4.0) that signaled the start of the overwhelming development of industries in the areas of robotics, artificial intelligence (AI), nanotechnology, biotech, quantum computing, 3D printing, internet of things, autonomous vehicles, energy storage, embedded sensors, and microchip implants, among others. This has put us in a state of unimaginable accelerated exponential growth where changes are so fast (Schwab, 2016).

According to the 2016 World Economic Forum, when the concept of the Industrial Revolution 4.0 is combined with the concept of Web 4.0, the thickening of the discourse has made waves of both enthusiasm and apprehensions of its disruptive future scenario (Schwab, 2016).

Tim Berners Lee, the primary inventor of the World Wide Web, which is the system of text links and multimedia capabilities accessible to mass

audiences, classified the evolution of the web into four phases. Web 1.0 in 1999 is static and read-only-sites hosting about three million websites that are linked to Yahoo and search engines. By 2006, the web had evolved into the read-write internet where the interactivity happens through content creation, sharing and collaboration, social media, and blogging. Web 2.0 contains around 85 million websites including Wikipedia, Facebook, and a collaborative problem-solving website where one can ask questions and expect a response. The semantic web or Web 3.0 is characterized by standardized systems, linking various data items together, creation of context which gives meaning, 3D virtual and interspatial interactive internet, and development of sensors. During this phase, the machines can directly interact with each other. In 2019, the internet has more than 1.94 billion websites. This exponential growth marks the start of Web 4.0 or the internet of things. The entire web is getting to be a single operating system where information flows from anyone point to any other known as the symbiotic web. Interaction between humans and machines is in symbiosis. The line between humans and devices will blur. The world is connected 24/7. Users will be able to meet and interact trans-spatially on the web as avatars, holograms in an open, linked, and intelligent web. Wearable devices and embedded sensors are already being developed (European Center for Nuclear Research, n.d.).

Education 4.0 responds to the needs of *Industry 4.0* or the fourth industrial revolution; man and machine align to enable new possibilities. It harnesses the potential of digital technologies, personalized data, open-sourced content, and the new humanity of this globally-connected, technology-fueled world establishing a blueprint for the future of learning (Fisk, 2017).

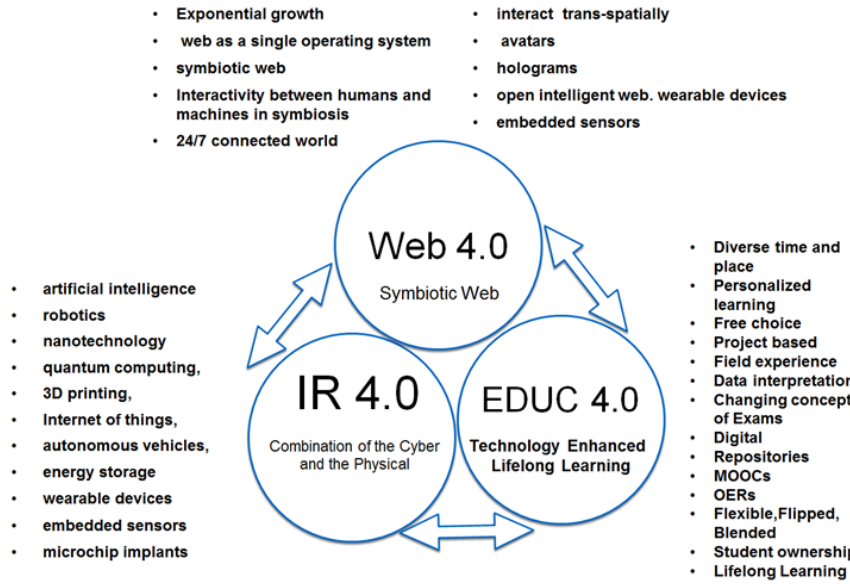
At a glance, Education 4.0 is characterized by the following: (a) diverse time and place where education is self-paced and e-learning tools are utilized in a flipped classroom; (b) personalized learning via the use of tools that adapt to student capabilities; (c) free choice for students to use tools that they are familiar with for their learning process and learn with different devices; (d) project-based indicating a freelance economy applying skills in shorter terms and to a variety of situations; (e) field experience for students to fulfill internships, mentoring and collaborative projects in the field; (f) data interpretation which focuses on mathematics as a third language, and computers for statistical analysis and future trend prediction of big data, and crowdsourcing; (g) exams will change completely as the courseware platforms assessing students capabilities through Q&A might not suffice

hence, students are best tested when they work on projects in the field eg. creation of work portfolio; and (h) student ownership, including forming their curricula and maintaining a curriculum that is contemporary with teachers mentoring (Fisk, 2017).

The IR 4.0 or the combination of the Cyber and Physical, Web 4.0, or the Symbiotic Web, and Educ 4.0 or the technology-enhanced lifelong learning are linked together and are moving as one (see Figure 1). The way it moves, however, varies in different nations and communities.

Figure 1

The interaction of Web 4.0, IR 4.0, and Educ 4.0



Moreover, the UN reiterates that everyone has the right to education. Education shall be free. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all based on merit. This has been reflected in the Sustainable Development Goals (SDGs) presented as the 2030 Agenda. Quality Education (SDG 4) with a strong influence of a paradigm shift in looking at the role of higher education is seen to help in the direct realization of decent work and economic growth (SDG 8), sustainable industry innovation, and infrastructure (SDG 9), reduced inequalities (SDG

10). And important to all these is the partnership (SDG 17), where we have to do our part and eventually help in the realization of the rest of the 12 SDGs (Figure 2).

Figure 2

Sustainable Development Goals

AN APPROACH TO DEVELOPING AN ACCREDITATION SYSTEM

Simultaneous with data gathering, three meetings were convened by the task force to discuss proceedings as well as the course of action during the conduct of the feasibility study. The summary of the meetings is presented in Table 1.

Table 1

Summary of the meetings conducted by the AAOU Task Force

DATE	VENUE	ITEMS DISCUSSED
16 February 2018	Metro Manila, Philippines	• Resolution to have three parts of the study: 1) Needs assessment, 2) Devising the system, 3) Report Preparation • Designated members of the task force to gather data thru questionnaire and in-depth interview with AAOU senior staff members • Gathered secondary data (i.e., government and internal QA document) via link or attachment to the email
04 & 05 May 2018	Tangerang, Indonesia	• Reevaluated the mission, vision, and objectives of the study • Addressed issues arising from the interviews conducted
06 July 2018	Hong Kong	• Proposed Phase 2 of the study • Discussed what needs to be presented to the Executive Meeting in Vietnam on 23 October 2018 • Additional data gathered from surveys and focus group discussions (FGDs) in 2018 International Conference on Open and Innovative Education (ICOIE) 2018
22 October 2018	Hanoi, Vietnam	• Focused on what could be proposed as Phase 2 of the study • Preparation of presentation to the Executive Committee Meeting during the 31st AAOU Annual Conference in Yogyakarta, Indonesia

The primary source of data gathered was via questionnaires, surveys, FGDs, and in-depth interviews. Questionnaires were distributed via email from February to May 2018. This is followed by survey distribution, FGDs, and in-depth interviews with notable individuals in the field of ODL on July 05, 2018. On the other hand, the secondary data collected include documents on the accreditation system used by the interviewees' institutions and government/ministry.

The demand, type of accreditation services needed, profile or qualifications of the accreditation team, possibility of credit transfer, and financial viability and sustainability were elicited from the 11 interviewees, 76 survey respondents, and nine FGD participants. The following questions were asked:

1. How great will the demand for an accreditation system be?
2. What particular services are needed?
3. What accreditation procedures and standards are suitable for institutions in the region?
4. What profile should the accreditation team have?
5. How can the services be financially viable and sustainable?

Other relevant factors considered during the study include reasons for AAOU to provide the accreditation services, types of services, potential benefits to the institutions receiving the services, and potential problems caused to the institution.

Demand

All eleven respondents noted that their respective institutions have been accredited by their respective national agencies, ministries of education, or self-accrediting institutions. Two of these institutions have been accredited by more than one body. Also, 61 out of 76 survey respondents and all nine FGD participants see accreditation as important to their institutions.

When asked if they wish to be accredited by AAOU in case it offers accreditation services, three respondents answered that they will definitely avail of the service while three respondents were likely to avail since it is necessary for distance education, and AAOU is a reputable association. Two respondents replied "maybe" due to their skepticism on how the university sees the value of accreditation and accreditation fees. Respondents also answered that they will not avail of services (two respondents) and that they are unsure if they will avail (one respondent) for the reasons that accreditation should come from the national agency and that their current concern is local accreditation, respectively.

Importance and Benefits of Accreditation

The respondents noted the importance of accreditation due to the following reasons: (1) for QA and enhancement purposes, (2) as a requirement

by their government/ministry of education/national agency/by law, (3) for government, and international recognition. On the other hand, the respondents stated international and national recognition, quality assurance, increased enrollment, student mobility, and credit transfer as potential benefits of accreditation.

Type of Accreditation Services

The services that institutions need in case of accreditation by AAOU include general advice/consultancy services, particularly on quality improvement and self-evaluation.

Accreditation Team

Respondents via questionnaire noted that the accreditation team should consist of senior staff members of well-established universities who have experience in administration, quality assurance procedures, accreditation, and ODL. Similarly, survey respondents identified the appropriate qualifications of the accreditation team having experience in teaching, research, industry, ODL, accreditation, and management, knowledge/ expertise in accreditation and information technology (IT), holding posts in international educational bodies/well-known universities, among others.

Financial Viability and Sustainability

The cost of accreditation identified ranges from USD20,000 to USD60,000 and USD3,000 to USD6,000 for institutional and program/department accreditation, respectively.

Factors/Issues Taken Into Consideration

Given the need for an accreditation system for technology-enhanced/ mediated education of traditional and conventional universities and different standards of quality due to variation of the definition of "openness", the AAOU aims to offer unified open education accreditation services to promote quality open distance or e-learning education not just to its member institutions but also to other universities outside Asia. The accreditation services to be offered includes institutional accreditation, program accreditation, and other accreditation-related services (e.g., advisory and consultative services).

Aside from being an internationally recognized institution having a quality institution or program, institutions availing the AAOU accreditation service

will experience its potential benefits in terms of enhanced institutional system and staff knowledge. However, numerous paperwork and high accreditation costs may cause potential problems to the institutions availing of the service.

Hence, the AAOU identified the following considerations in developing the accreditation services: (1) the validity of the accreditation, (2) guidelines on standards and procedures, (3) level of fees.

AN ACCREDITATION FRAMEWORK FOR TECHNOLOGY-ENHANCED/ MEDIATED EDUCATION

To optimize the use of technology, the people's agenda is also top of mind for business leaders, and the "war for talent" is a priority for all organizations surveyed. In this age of disruption, specialist technology and digital skills are in demand, with 50% of executives surveyed indicating they are currently hiring new talent with digital skills.

Given the exponential technological disruptions, the changing learning styles of students, and the need for excellent, agile, equitable, and sustainable courses, and programs in universities, colleges, schools, and other learning institutions, AAOU recognized the need to design an accreditation instrument in response to these pressing trends and concerns that are shaping the picture of the "university of the future." Moreover, AAOU wants to respond to the need for an accreditation system for all forms of technology-enhanced/ mediated education.

The AAOU executive committee, cognizant of its role in elevating the quality standards of ODL institutions, committed to supporting the development of an accreditation system that will assure quality education. Such an accreditation system is envisioned to: (1) to satisfy the need for international recognition among institutions offering open learning courses; (2) promote quality in open learning; (3) facilitate continuous improvements in course provision; (4) capitalize on the positive image of AAOU; and (5) determine sources of funding for the sustainability of the accreditation services of AAOU.

The Task Force also worked together to identify the dimensions and agreed on the definitions of each dimension as presented below:

- Agility – flexibility, responsiveness, adaptability, timeliness, relevance

- Equity – comprehensiveness, inclusiveness, impartiality, fairness, accessibility
- Excellence – efficiency, effectiveness, distinctiveness, outstanding
- Sustainability – consistency, resiliency, innovativeness, progressiveness, creativity

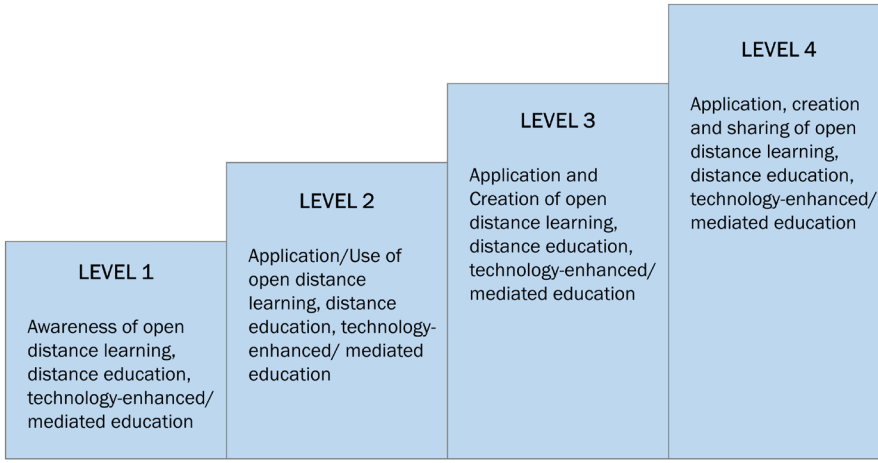
Levels of Accreditation

The AAOU Task Force agreed that the accreditation system should not be limited to online distance learning but may cover open distance learning that uses print as a technology. They also agreed that the accreditation system will be developmental in approach. This way, the evaluation for the institution or the university will further develop or improve itself. Dr. Alan Tait, Professor Emeritus of Open University, United Kingdom, in an in-depth interview, believes that a developmental approach towards accreditation is more beneficial as a whole for both parties involved (the accreditation team and the institution to be accredited), especially on an international basis. He stated that an institutional approach would be a good focus as well, and this entails how the institutions are addressing technology-supported learning, what mechanisms the institutions have to develop change, what avenues the institutions have that they are successful in.

Hence, the four levels of accreditation proposed below:

Figure 3

Levels of accreditation



- **LEVEL 1:** Awareness of open distance learning, distance education, technology-enhanced/mediated education
  - The institution has knowledge that open distance learning, distance education, technology-enhanced/mediated education, and technology-enhanced education exists.
  - The institutions have indicators of the awareness on open distance learning, distance education, technology-enhanced/mediated education, and technology-enhanced education.

- **LEVEL 2:** Application/Use of open distance learning, distance education, technology-enhanced/mediated education
  - The institution conducts institutional activities that use appropriate technologies to facilitate open distance learning, distance education, technology-enhanced/mediated education, and technology-enhanced education.
  - Examples of such applications may be learning modules, digitization of inventories, researches are accessible (e.g., print, multimedia, interactive media).

- **LEVEL 3:** Application and Creation of open distance learning, distance education, technology-enhanced/mediated education
  - The institution conducts and creates institutional activities that use appropriate technologies to facilitate open distance learning, distance education, technology-enhanced/mediated education.
  - Examples of such application can be the creation of learning modules and other learning materials (e.g., ODeL, MOOCs) and the creation of eLibraries and digital repositories.

- **LEVEL 4:** Application, creation, and sharing of open distance learning, distance education, technology-enhanced/mediated education
  - The institution displays a culture of collaboration, partnerships, and sharing of open distance learning, distance education, technology-enhanced/mediated education, and technology-enhanced education.
  - Examples may include any aspect where equity comes in (i.e., MOOCs as OER).

The following recommendations were formulated based on the results:

- The AAOU may choose to focus on institutional and program-level accreditation.
- All institutions receiving accreditation services should be required to have been recognized by their local government to offer open, distance, or e-learning courses.
- The accreditation team should have a name of its own, without specifying "Asia", to be able to offer services without any geographical boundaries.
- The accreditation team should have representatives from at least three different countries.

NEXT PHASE

Moving forward, AAOU intends to focus on instrument and process development, conducting a pilot run, and relevant training for the individuals to be identified as part of the accreditation team. In conducting the pilot run, which will take three to five days, the university to be visited should be willing to shoulder accommodation and food expenses while AAOU will shoulder the travel expenses. The primary and secondary data gathered in Phase I of the study will serve as a model to develop the accreditation system/instrument.

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CHAPTER 13

Identifying Criteria for an Accreditation Instrument for Technology-driven Higher Education

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ABSTRACT

Following an approved accreditation framework for technology-enhanced programs and institutions, the development of an appropriate instrument was initiated through the identification of appropriate criteria and sub-criteria for inclusion. The process of developing the first version of an instrument followed a modified Delphi approach wherein experts' views were sought in a three-round consultation process. Results suggest measuring 10 criteria and 71 sub-criteria that could lead to the awarding of one of four levels of accreditation. This chapter documents this initiative towards operationalizing a quality assurance (QA)-based accreditation system for institutions offering technology-enhanced/mediated programs by identifying criteria for inclusion in a QA-based accreditation instrument.

INTRODUCTION

Accreditation has always been considered an essential part of the higher education system. It is "a process by which a (non-)governmental or private body evaluates the quality of a higher education institution as a whole or of a specific educational programme in order to formally recognize it as having met certain predetermined minimal criteria or standards. The result of this process is usually the awarding of a status (a yes/no decision), of recognition, and sometimes of a license to operate within a time-limited validity" (Vlăsceanu et al., 2007, p. 25).

While the purpose of accreditation in higher education remains focused on improving academic quality and public accountability, recent developments and global trends affecting the education system point to a need to review indicators of quality in higher education. The ubiquity of technology in almost all aspects of teaching and learning as well as in its administration and management in these times compels us to revisit the basis for awarding recognition of quality through an accreditation system.

The affordances of technology are most felt in open and distance learning (ODL) and with concerns over quality in comparison with traditional learning, ODL institutions are concerned with bringing in more credibility and reputation for its teaching and learning to be at par with traditional face-to-face learning. With its long history of technology-mediated and technology-enhanced education using various technologies from print to digital media, ODL institutions have expressed the need to develop relevant and responsive accreditation systems.

The Asian Association of Open Universities (AAOU), an organization of 61 institutions, had taken the initiative to develop an accreditation system during the presidency of the University of the Philippines Open University (UPOU) (2017–2019). The move to establish an accreditation system for technology-mediated and technology-enhanced education in the digital age was a welcome initiative. A series of surveys, in-depth interviews, and focus group discussions were undertaken to determine interest among the member universities. There was an indication of strong emerging interest among open universities, traditional universities, and cyber universities to avail of the services of an Open Education accreditation process.

In this chapter, we describe the process of developing the first draft of an accreditation instrument by identifying the criteria to be used.

DEVELOPING THE INSTRUMENT

Recognizing the need to pioneer an accreditation system that responds to the need of institutions offering all forms of technology-mediated education, the AAOU Accreditation Task Force employed a modified Delphi approach, using both online and face-to-face means, to solicit expert opinions.

The Delphi Method

The Delphi technique is "a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem" (Linstone & Turoff, 1975, p. 3). The structured communication is accomplished in several ways: through the feedback of individual contribution to information and knowledge; through assessment of the group judgment or view; through opportunities for individuals to revise views; and through a degree of anonymity for the individual responses (Linstone & Turoff, 1975). The Delphi technique is used to create consensus among a group of experts (Vernon, 2009).

There is no definite way for conducting a Delphi method (Delbecq et al., 1975; Taylor, 1978; Tersine & Riggs, 1976, as cited in Wakefield & Watson, 2014). It is a basic method of research that works through a course of "rounds" or "waves" that aims to consolidate a range of answers into a consensus that will show a clear and reasoned dichotomy (Verčič et al., 2001). The process requires a minimum of two rounds, while three rounds are considered the most effective number for producing desirable results (Landeta, 2006; Linstone & Turoff, 1975).

Generally, the Delphi method begins with very flexible open-ended questions or propositions, and advances toward more quantifiable data or identifiable patterns through consolidating comments, thoughts, suggestions, and comments of experts until a consensus or no consensus is achieved (Verčič et al., 2001). Powell (2003) recommended the Delphi method in instances where individual perception must be drawn out and merged to create a consensus or the lack thereof. As aforementioned, Landeta (2006) also supports the use of the Delphi method in "structuring communication between a group of people who can provide valuable contributions in order to resolve a complex problem" (p. 468).

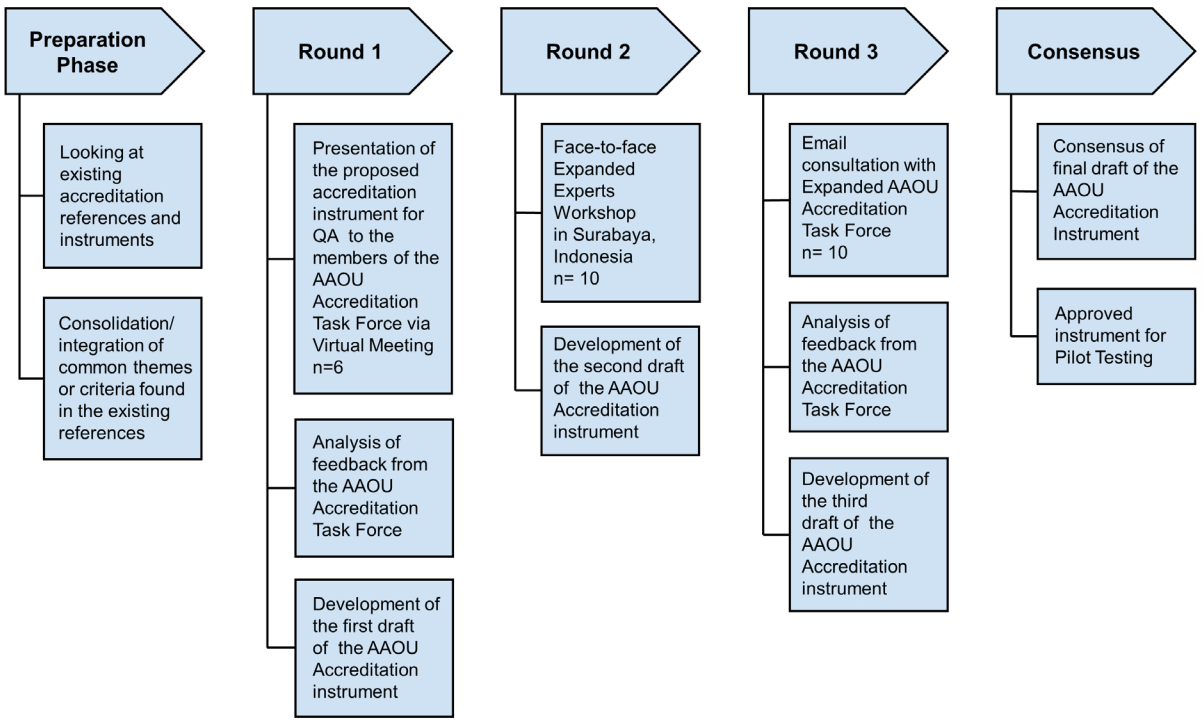
Its application in developing an instrument was presented in an article by Colton and Hatcher (2004), which highlighted the results of an online Delphi research project. The research study used the Delphi research method to develop an instrument in applying the principles of adult learning to web-based instruction and training called an *Online Adult Learning Inventory* (Colton, 2002, as cited in Colton & Hatcher, 2004). Instead of employing the traditional paper and pencil or computer network Delphi techniques, the Delphi process was conducted on the Web. They constructed a website with a threaded discussion forum related to developing content and validity, Web voting forms to determine the level of expert consensus, a task calendar, and an archive for draft versions that are accessible for review at any time. Anonymity within the group was maintained using pen names. The experts were also given sufficient time to think about the content and the draft instrument or write their commentary to the discussion forum.

Due to its tedious nature, the Delphi technique is an overlooked research method. However, with the introduction of online Delphi, the process has become convenient as it has reduced the amount of paperwork and mailings. Moreover, with the use of current technology, the process allows for "anytime, anywhere" communications among the panel of experts that could facilitate consensus and content validation.

Given these applications, the Task Force considered the Delphi method as having the most potential in effectively drawing and consolidating insights, comments, suggestions, and ideas from a panel of experts to develop a structured measuring instrument for a QA-based accreditation system. A modified Delphi process was employed to draft a QA-based Accreditation Instrument by identifying relevant criteria for ODL (Figure 1). It comprised three rounds of consultations (meetings/workshops among experts) conducted face-to-face and online.

Figure 1

A three-round expert panel consultation process for the development of the QA-based accreditation instrument for ODL



The Expert Panel

The first set of the expert panel who worked together on the first round of the Delphi process is composed of the AAOU Accreditation Task Force headed by the AAOU Secretary-General. Members of the Task Force are composed of four Heads (Rector, President, Chancellor, and Vice Chancellor) of open universities in Asia (Universitas Terbuka, The Open University of Japan, University of the Philippines Open University, and The Open University of Sri Lanka), one Director of Research Office of an open university (The Open University of Hong Kong), and one Vice-Chancellor for Academic Affairs cum QA officer (University of the Philippines Open University). The Task Force are experts in distance education, given their years of service and experience in their respective universities.

For the second and third rounds of the Delphi process, experts in open and distance learning and quality assurance (QA) were identified to be members of the expanded Task Force serving as experts panel. The expanded experts panel is composed of the aforementioned Accreditation Task Force and a Senior Advisor on Academics, Ministry of Research, Technology and Higher Education of Indonesia; Head of the Education Quality Assurance Center at the Institute for Research and Community Service (LPPM) in Universitas Terbuka, Indonesia; Assistant Vice President for Quality Assurance of the University of the Philippines; and Director IV, Office of Programs and Standards of the Commission on Higher Education, Philippines.

Development of the AAOU Accreditation Instrument

Preparation Phase

The preparation phase comprised three meetings involving the AAOU President, AAOU Secretary-General, and the Vice Chancellor for Academic Affairs cum QA Officer, all of whom are with the UPOU. In preparation for the first round of the Delphi process, the team looked into existing QA references and instruments from the ASEAN University Network (AUN), Commonwealth of Learning (COL), Commission on Higher Education (CHED) in the Philippines, and the AAOU QA Framework.

Table 1 shows the comparative criteria of existing QA instruments. Considering these criteria, commonalities were pulled out to become the basis of an initial set of criteria for the instrument. In addition, dimensions

that reflect the requirements of 21st-century education and advancements in industry, web technology, and education were considered to be included namely, agility, excellence, equity, and sustainability. These are expected to address and respond to the exponential technological disruptions, changing the learning styles of students, and the need for agile, excellent, equitable, and sustainable courses, and programs in universities, colleges, schools, and other learning institutions.

Round 1 (Virtual Meeting with the AAOU Accreditation Task Force)

The first round of the Delphi process was done through a virtual meeting. Present during the virtual meeting were members of the AAOU Task Force, the first set of the expert panel. During this meeting, the AAOU Secretary-General presented *A Proposed Accreditation System for Quality Assurance of Technology-Enhanced Higher Education in Times of Openness in the Digital Age of Technological Disruptions.* The accreditation system is intended for residential, ODL, and cyber universities, colleges, schools, and other learning institutions engaged in technology-enhanced teaching and learning in higher education.

Members of the Task Force commended the presentation since it provided strong background information, good reasons to substantiate the claim, and a need for such a kind of accreditation system. The team agreed that the accreditation system is not limited to online distance learning but will cover open distance learning that uses print as a technology. They also agreed that the accreditation system will be developmental in approach, i.e., it is intended for the self-improvement of the institution. During the meeting, the expert panel (Task Force) also agreed to adopt the presented accreditation framework and the proposed four-level accreditation scheme that will be used in the AAOU Accreditation System.

Round 2 (Face-to-Face Expanded Expert Panel Workshop)

Integrating all comments and suggestions of the Task Force, the first set of criteria was developed collaboratively and approved for sharing in the next round of expert panel consultation.

In the second round, the panel of experts constituting the expanded Task Force identified the ten criteria and decided on the sub-criteria based on the consolidated QA and Accreditation Instruments from different esteemed

institutions such as the Commonwealth of Learning (QA ToolKit), ASEAN University Network (QA Guide to AUN-QA Assessment at the Institutional Level), Philippine Commission on Higher Education (Monitoring Checklist for Distance Education Program), and the AAOU QA Framework (Appendix 1). Table 1 summarizes these criteria and shows the match with the proposed criteria.

Table 1

Initial matrix of criteria for accreditation system from different references

INSTITUTIONAL CRITERIA				
AAOU Quality Assurance Framework	**COL Quality Assurance ToolKit**	**Guide to AUN-QA Assessment at Institutional Level**	**CHED Monitoring Checklist for Distance Education Program**	**Proposed Accreditation Criteria**
1. Policy Planning	1. Vision, Mission, Planning	1. Vision, Mission, Culture	1. Institutional Management and Commitment	**Vision, Mission, Management, and Planning**
2. Internal Management	2.Management, Leadership, and Organizational Culture	2. Governance		**Leadership and Strategic Management**
		3. Leadership and Management		
		4. Strategic management		
3. Learners and Learners' Profiles	3. The learners	5. Student Recruitment and Admission		**Learners and Learners' Profiles**
4. Human Resources	4. Human Resource and Development	6. Human Resources Management		**Human Resources Development and Management**

INSTITUTIONAL CRITERIA				
AAOU Quality Assurance Framework	**COL Quality Assurance ToolKit**	**Guide to AUN-QA Assessment at Institutional Level**	**CHED Monitoring Checklist for Distance Education Program**	**Proposed Accreditation Criteria**
5. Program Design and Curriculum Development	6. Program Design and Development	7. Policies for Education, Research and Service	2. Delivery Mode/ Strategies	**Program Design and Development**
6. Course Design and Development	5. Course design and development	8. Curriculum Design and Review	Curriculum and Delivery System	**Course Design and Development**
7. Learner Support	6. Learner Support	9. Student Services and Support	3. Student Support Services	**Learner Support and Services**
8. Learner Assessment and Evaluation	7. Learner Assessment	10. Student Assessment		**Learner Assessment**
9. Infrastructure, Media and Learning Resources	8. Infrastructure and Learning Resources	11. Financial and Physical Resources Management	4. Instructional Materials and Development	**Infrastructure, Media, and Learning Resources and Management**
10. Research and Community Services	9. Research Consultancy and Extension Services	12. Research Management		**Research and Extension Services**
		13. Research Collaboration and Partnerships		
		14. Research Results		
		15. Service Results		

The proposed criteria, as identified by the expanded Task Force include the following:

1. Vision, Mission, Management, and Planning
2. Leadership and Strategic Management
3. Learners and Learner Support
4. Human Resources Development and Management
5. Program Design and Development
6. Course Design and Development
7. Learner Assessment
8. Infrastructure, Media, and Learning Resources Management
9. Research Management
10. Community Involvement/Extension Service/Public Service

During the second round of consultation, the expert panel accepted the 10 criteria and suggested adding the sub-criteria under each of the 10 criteria. Table 2 shows the Criteria and Sub-criteria for the proposed instrument.

Table 2

Identified criteria and description/sub-criteria for the proposed accreditation instrument

Identified Criteria	Description/Sub-criteria
1. Vision, mission, management, and planning	1.1 The institution has a well-defined vision and mission statement that is responsive to the needs of the internal and external educational environments (both national and international), communicated to relevant stakeholders, and reviewed regularly.
	1.2 The institution's policies on admission, financial student support, credit transfer, appeal mechanisms, ethical practices, partnerships/collaborations reflect inclusiveness, fairness, and impartiality.
	1.3 The quality of distance education offered by the institution is assured through a functional QA for the DE unit and an effective IQA management system at the institutional and program levels.
	1.4 The Strategic Plan of the institution is aligned with the vision-mission statement that was developed systematically and with ownership/buy-in by the relevant stakeholders.

Identified Criteria	Description/Sub-criteria
2. Leadership and Strategic Management	2.1 The organizational structure of the institution is appropriate for its operations.
	2.2 The institution has a time-bound academic calendar that is followed meticulously.
	2.3 The institution has effective channels of communication that clearly explain helpful information (e.g. enrolment procedures) and quickly deal with inquiries and complaints to serve potential, current, and past students, key external organizations, and all staff and tutors involved in the teaching-learning process.
	2.4 The institution allocates provision in the budget to promote and enable constructive experimentation in the design of courses and delivery methods.
	2.5 The institution has an internal communication system in place to ensure effective coordination among different institutional constituencies.
	2.6 The institution has a statement on "strategic organizational values" that encourages innovation, creativity, and collaborative relationships as well as mechanisms to ensure adherence to it by all constituents.
	2.7 The governance system of the institution corresponds well with its local government regulation and is established for institutional effectiveness, sustainability, transparency, and better risk management.
3. Learners and Learners' Profiles	3.1 The institution ensures that potential learners and the wider community are aware of its courses and programs on offer, its operational systems, and the advantages of open distance learning, distance education, technology-mediated education, and technology-enhanced education.
	3.2 The institution gathers sufficient information while maintaining confidentiality about learners' demographics, language, gender, ethnicity, socioeconomic and educational backgrounds, special needs, and expectations and satisfaction with services to carefully design policies and learner-centered programs and support services.
	3.3 The institution provides tutors with easy access to information about its learners.
	3.4 The institution responds to the needs of learners based on the gathered information by providing support services, tutorial support, channels for regular feedback, career counseling, etc. where necessary.

Identified Criteria	Description/Sub-criteria
	3.5 The institution provides avenues to involve learners in the decision-making processes.
	3.6 The institution has an efficient and secure system for the administration of learners' records over time and monitors close links with learners.
	3.7 Learner support is considered by the institution during programme development and is built into the design of the programme and course materials using appropriate media and technologies that match the course content in order to enhance and expand learning.
	3.8 The institution ensures that a sufficient number of qualified and appropriately trained tutors are recruited for the courses.
	3.9 The institution provides orientation sessions and a variety of tutorial modes that are easily accessible to the students.
	3.10 The institution has appropriate support and facilities are provided for learners with specific learning difficulties throughout the duration of their study.
	3.11 The institution's learner support emphasizes the development of independent learning skills.
	3.12 The institution provides opportunities for academic and social peer interaction.
	3.13 The institution ensures that measures for feedback and monitoring of learner support services are in place.
	3.14 The institution trains its staff to have a positive attitude towards learner-centered provisions and effectively and efficiently handle the learner-support services to meet stakeholders' needs and satisfaction.
	3.15 The institution has mechanisms to facilitate student progression from one level of education to the next higher level successfully and towards gainful employment.
	3.16 The institution provides financial assistance for needy learners.
4. Human Resources Development and Management	4.1 The institution has clear guidelines and standard criteria for selecting, recruiting, and retaining a sufficient number of qualified staff members, who are expected to perform the tasks in pursuit of the vision, mission, and goals of the institution.

Identified Criteria	Description/Sub-criteria
4. Human Resources Development and Management	4.2 The institution has a well-defined performance management system, which is understood and accepted by all staff members as a tool to ensure that they are appropriate for the operation of the institution, to motivate them to develop their skills and knowledge, and to appropriately recognize and reward their achievements.
	4.3 The institution has staff development and motivation practices that provide its staff members with need-specific human resource development programs together with a reward system which are communicated and acknowledged by all staff members.
	4.4 The institution has an effective human resource development and welfare system to train, retain, motivate, and promote the employees for the roles and tasks they perform, particularly with respect to the application of appropriate new technologies.
5. Program Design and Development	5.1 The institution has clear processes and procedures for program development and institutional approval.
	5.2 The institution's programs are designed and developed to respond to learners' needs and focus on the development of knowledge, attitudes, and skills and their application in professional practice where applicable.
	5.3 The institution developed and modified its programs in consultation with relevant industry and professional bodies and displayed sensitivity to changes in social and market demands.
	5.4 The institution gives access to programs as open as possible with flexible entry and exit points where applicable.
	5.5 The institution ensures that the program curriculum reflects current knowledge and practice and is sufficiently comprehensive for learners to achieve the stated learning outcomes.
	5.6 The institution ensures that program design and development pays attention to gender equity, multiculturalism, social justice and cohesion, ethical values, and environmental sustainability.
	5.7 The programs offered by the institution provide sufficient flexibility for learner choices in the courses.
	5.8 The programs offered by the institution are evaluated on the basis of the learners' achievement of the intended learning outcomes.

Identified Criteria	Description/Sub-criteria
6. Course Design and Development	6.1 The institution ensures that the course content is designed relevant to the goal of the study programs.
	6.2 The institution takes into consideration and incorporates recent advances in ICT that are appropriate to the course objectives and the characteristics, learning needs, and circumstances of its learners in developing course design.
	6.3 The instructional design of the institution is based on learner-centered principles and recognizes the diversity of learners' learning contexts and learning styles while ensuring realistic scheduling of activities.
	6.4 The courses offered by the institution have ample scope for encouraging and developing creative and critical thinking, independent and lifelong learning, and interpersonal communication and teamwork skills.
	6.5 The institution ensures that the process of designing, developing, and delivering courses incorporates a range of relevant expertise and to encourage linkages with national and international agencies.
	6.6 The instructional design of the institution includes an assessment of learning against stated learning outcomes.
	6.7 The institution provides its learners with a complete instructional package that includes course description, syllabus, course plans, learning outcomes, details of assessments and evaluations, completion requirements, course material including multimedia supplementary learning resources, interactive course activities, community building activities, and assessments, texts, and media, materials and information to demonstrate the appropriate scope, sequence, and depth of each course in relation to the stated goals and objectives.
	6.8 The curriculum design, review process, and course materials of the institution are improved to ensure that they remain relevant, up-to-date, and quality-assured to meet the changing needs of the stakeholders.
7. Learner Support and Services	7.1 The institution ensures that the purposes of the assessment are clearly described in the course materials, and can be explained by all academic staff so learners are able to self-assess some of their assignments.
	7.2 The institution has systems for the tracking and recording of the learners' performance and progress and a timely communication of the same to the learners.

Identified Criteria	Description/Sub-criteria
	7.3 The institution ensures that the processes of assessment satisfy national and institutional requirements and are improved to ensure their validity and reliability towards the achievement of expected learning outcomes.
	7.4 The graduation rates of the institution are aligned with institutional and national targets.
8. Learner Assessment	8.1 The institution considers the cost and benefits to the institution and the learners when selecting the media and technologies to use to ensure that they are appropriate, suitable. accessible, equitable, and practical when used.
	8.2 The institution provides suitable and sufficient administrative and technical support or training to staff, tutors, and learners on the use of media in open distance learning, distance education, technology-mediated education, and technology-enhanced education.
	8.3 The institution undertakes systematic research and development of new technologies so it can make informed choices on integrating new technologies into the academic and administrative services for students.
	8.4 The institution provides a wide distribution of services through outreach centres to ensure equity and access.
	8.5 The institution has a system to plan, maintain, evaluate and improve the academic resources such as library resources, teaching aids, online databases, etc. to meet the needs of education, research and to keep pace with the academic growth of the institution.
	8.6 The institution ensures that library facilities include technology aided learning materials to enable students to acquire information, knowledge and skills.
	8.7 The institution has a system to plan, implement, evaluate and improve the environment, health and safety and access to people of special needs is established and implemented.
9. Infrastructure, Media,and Learning Resources and Management	9.1 The institution has a clear definition of policies, standards and guidelines that are guided by ethical research practice.
	9.2 There is dissemination and promotion of research culture internally within the institution among faculty, staff and learners.
	9.3 The institution provides time and incentives for research development.

Identified Criteria	Description/Sub-criteria
	9.4 The institution allots the appropriate funds and the development of a program for resource generation for research, innovations and collaborative research projects.
	9.5 The institution provides experts and sufficient human resource complement for the development, practice, and scholarship for research in the disciplines.
	9.6 The institution ensures quality and sustainability through strong monitoring, evaluation and assessment of research initiatives.
	9.7 The institution promotes the use of technology for research (e.g., big data analysis, e-methodologies, crowdsourcing, etc.).
10. Research and Extension Services	10.1 The institution has clear policies, standards and guidelines on extension services and public service.
	10.2 The institution promotes a culture of public service in its programs, projects and courses.
	10.3 The institution provides sufficient funds for staff and learners to do public service.
	10.4 The institution conducts sufficient mission-related activities that are suited to the needs of the community.
	10.5 The institution contributes to the local community through promoting and providing lifelong education.
	10.6 The institution actively involves community members in its community services that have clear guidelines for planning, implementing, and monitoring.

Round 3 (Email consultation with Expanded AAOU Accreditation Task Force)

Incorporating all comments, suggestions, and ideas from the face-to-face meeting in Round 2, the second draft of the proposed accreditation instrument was developed. The second draft was then circulated to the expanded experts team via email to seek any further feedback and suggestions on the identified criteria and sub-criteria that will constitute the proposed accreditation instrument.

With minimal corrections and with no other comments from the expanded experts team, some level of consensus was achieved on the criteria/sub-criteria. The identification of essential criteria/sub-criteria of an accreditation instrument was completed over eight months. The draft of the proposed accreditation instrument comprised 10 criteria and 71 sub-criteria as indicated in Table 2 above.

PROPOSED ACCREDITATION CRITERIA FOR OPEN EDUCATION

The approved AAOU accreditation framework, that included dimensions such as agility, excellence, equity and sustainability provided the basis for the development of an accreditation instrument. By employing the Delphi method, the expert panel was able to identify the important QA criteria and sub-criteria that will constitute the proposed instrument appropriate for technology-enhanced and technology-mediated learning that could be used by ODL, cyber universities as well as traditional learning institutions.

While the instrument is yet to be fully developed, the modified Delphi process employed in identifying the criteria and sub-criteria was found to have been useful as an iterative process of seeking and incorporating feedback from a set of experts via widespread consultation using different channels. Identification of the guiding framework and essential criteria is the first step in developing an instrument. This AAOU initiative employed a modified Delphi method which ensured that the accreditation instrument to be developed was reviewed and approved by experts in the fields of QA, institutional and program accreditation, and ODL. This is vital in determining the suitability and relevance of the instrument across different technology-enhanced and technology mediated learning institutions in the Asian region and beyond.

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Appendix 1

Summary of the development process of the AAOU Accreditation instrument during the second round of the Delphi Method

Criteria	Sub-criteria	Expansion	Deletion	Merging	Amend-ments
1. Vision, mission, management and planning	Sub-criteria was com-pressed from 24 to 4 items	0 sub-criteria added	Removing duplication (n = 2)	Merging of sub-criteria that shared a similar theme (n = 22)	0 criteria amended
2. Leader-ship and Strategic Management	Sub-criteria was com-pressed from 27 to 7 items	0 sub-criteria added	Removing duplication (n = 2)	Merging of sub-criteria that shared a similar theme (n = 12)	1 criteria amended
3. Learners and Learner Support	Sub-criteria was com-pressed from 32 to 16 items	1 sub-criteria added	Removing sub-criteria fitting in other crite-ria (n=1)	Merging of sub-criteria that shared a similar theme (n = 22)	0 criteria amended
4. Human Resources Development and Manage-ment	Sub-criteria was com-pressed from 15 to 4 items	0 sub-criteria added	0 sub-criteria removed	Merging of sub-criteria that shared a similar theme (n = 13)	0 criteria amended
5. Program Design and Development	Sub-criteria was com-pressed from 13 to 8 items	0 sub-criteria added	4 sub-criteria removed	Merging of sub-criteria that shared a similar theme (n = 2)	0 criteria amended
6. Course Design and Development	Sub-criteria was com-pressed from 12 to 8 items	0 sub-crite-ria added	1 sub-cri-teria removed	Merging of sub-criteria that shared a similar theme (n = 6)	0 criteria amended

Criteria	Sub-criteria	Expansion	Deletion	Merging	Amend-ments
7. Learner Assessment	Sub-criteria was compressed from 8 to 4 items	0 sub-criteria added	0 sub-criteria removed	Merging of sub-criteria that shared a similar theme (n = 6)	0 criteria amended
8. Infrastructure, Media, and Learning Resources Management	Sub-criteria was compressed from 17 to 7 items	0 sub-criteria added	0 sub-criteria removed	Merging of sub-criteria that shared a similar theme (n = 10)	0 criteria amended
9. Research Management	Sub-criteria was compressed from 20 to 7 items	0 sub-criteria added	5 sub-criteria removed	Merging of sub-criteria that shared a similar theme (n = 12)	2 criteria amended
10. Community Involvement/ Extension Service/ Public Service	Sub-criteria was compressed from 6 to 6 items	3 sub-criteria added	5 sub-criteria removed	Merging of sub-criteria that shared a similar theme (n = 4)	0 criteria amended

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ABOUT THE COVER

Quality assurance can be described as the systematic, structured, and continuous attention to quality in terms of maintaining and improving quality which is portrayed by the continuous improvement symbol. The bars, which connotes "support" and/or "barrier", embodies the access, inclusivity, and equity that underpins and/or challenges the continuous improvement of an open and distance e-learning (ODeL) institution. The superimposed icons positioned at the bars signify some aspect of a technology-enhanced learning—ODeL's primary components. To contextualize the icons used in this cover, the bulb with the puzzle pieces symbolize excellence and critical thinking; the document with the key and the hands holding up a shield denotes data security, the laptop and cellphone symbolize technology and connectivity important to ODeL; the e-mail, download folder, and webpage symbolize access. The binary numbers on the background represent the direction of UPOU's QA initiatives and intellectual discourse towards an analytics-based evaluation approach for continuous improvement.