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IN THIS ISSUE:

Vision and Mission of the IJODeL

Vision

To be a leading international academic journal that publishes and disseminates new knowledge and information, and innovatives best practices in open and distance electronic learning.

Mission

The IJODeL shall publish and disseminate new knowledge and information based on original research, book reviews, critical analyses of ODeL projects and undertakings from various researchers and experts in the Philippines, the ASEAN Region, and the world, and concept articles with the intention of presenting new ideas and innovative approaches to interpreting and implementing best practices in open and distance e-learning as alternative delivery mechanism for quality education.

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Editorial
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The University of the Philippines Open University (UPOU) started publishing its academic journal, ***The International Journal on Open and Distance e-Learning (IJODeL)*** in 2015. Our latest issue, Vol. 4, No. 2 (December 2018) has just been completed and shall be online shortly.

Why are we publishing this journal? There are many reasons we can cite why we are publishing this journal, but I wish to focus on the almost mundane. In the developing world, there are countless experiences in undertaking distance e-learning activities mainly because we have seen this approach as a reasonably efficient approach to mass education in our environment. True, we are following the examples from developed countries, but we in the developing world are engaged in distance e-learning for survival-type reasons rather than just merely employing innovations as experienced by others. When we employ innovative ways of providing mass education to the teeming millions in our country sides, we are talking of social survival of our children. In this process, we have amassed wealth of experience that have hardly been learned by our educational planners and experts. This is understandable because such experiences have not been put on the table for serious discussion. This is perhaps one of the most important reasons why we feel very strongly about getting our colleagues to talk about their experiences in pursuing innovative ways of educating huge masses of humanity in our part of the world. We are as certain about our colleagues in developed countries wanting to learn from our experiences in the developing world as we in the developing world would want to learn from the experiences in the developed countries. The best way to do this, for now, is to present our experiences to academics of the world in an academic journal. This is what we are doing at IJODeL.

This is an open invitation to our colleagues in the developing as well as developed world to send us your articles for publication consideration in IJODeL. Please refer to our article submission procedure for the IJODeL (toward the end of this issue).

Felix Librero, PhD
Chief Editor

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Articles

Design, Development, and Testing of an Indigenous Knowledge Management System Using Mobile Device Video Capture and Web 2.0 Protocols

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Abstract

This study attempted to answer the following research questions: How can mobile devices be used by rural communities to document indigenous knowledge? How can Web 2.0 protocols be employed in an indigenous knowledge management system? How will indigenous peoples (IPs) respond to the use of mobile technology in the documentation of their local knowledge?

The theoretical basis for proposing that mobile devices may lead to the active participation of rural communities and indigenous peoples as ICT4D Web content providers is founded on three concepts: social capital; the network effect; and critical mass theory.

The primary technological intervention was the mobile device. GPRS enabled mobile phones, with audio-video capture and Internet browsing functionalities were provided to focal persons from three IP groups. The Principal Investigator trained the focal persons on mobile phone video capture of indigenous or local knowledge.

A content management system was designed to contain indigenous or local knowledge in agriculture in the form of rituals, practices, and others. The Principal Investigator and his assistants observed the knowledge capture and utilization process. During the conduct of the study, however, the researcher observed a marked reluctance from organized indigenous people's groups to participate in the initiative. It soon became apparent that interfacing indigenous knowledge with Web 2.0 and open access concepts held complicated issues. The intervening variables observed and deduced by the Principal Investigator were: indigenous belief systems; privacy of indigenous peoples; indigenous knowledge system (IKS) protocols; the significance of context in IKS; prejudice and value judgments among non-IP users; and misrepresentation of indigenous knowledge.

Keywords: *indigenous knowledge systems, Web 2.0, mobile devices*

Introduction

Many observers are of the opinion that the future of information and communication technology for development (ICT4D) rests upon mobile phones and other mobile devices. During the IAALD-WACC Summit 2008 conducted at the Tokyo University of Agriculture, the following predictions were made by the eAgriculture Keynote Panel: [1]

- Mobile devices will spell the death of the telecenter movement and will drive the final nail in the coffin of the 100-dollar laptop initiative. [2]

[1] *Flor et al., 2008. eAgriculture Keynote Panel Presentation. 2008 IAALD-WACC Summit, 25 to 27 August 2008, Tokyo University of Agriculture, Atsugi, Japan.*

[2] *Flor, 2009. Factors Associated with the Use of Mobile Phones as a Web 2.0 Platform for Philippine Rural Families. Diliman: PhilICT Research- International Development Research Centre of Canada.*

- Mobile service providers will solve the first mile/ last mile linkage challenge that has plagued the ICT4D community for the past decade.
- Mobile phone users in agricultural communities will reach a critical mass before 2010.
- Mobile phone functionalities will force the networking and collaboration issue, thereby rendering intermediaries unnecessary.
- Mobile phone content will efficiently address issues such as a universally acceptable language medium, auto-translations, relevance, and the lack of local knowledge.
- Mobile phone handsets will make ICT services affordable to agricultural communities.
- Mobile phone applications will provide the eAgriculture community with an effective Web 2.0 platform.

This study focuses on the last forecast. Web 2.0 has revolutionized how people think of the World Wide Web from a collection of individually-owned static websites with published content into a body of collectively-owned dynamic websites with user-generated content. The 3G mobile phone may provide ICT4D community in particular, a much-needed platform for Web 2.0.

On December 2008 to July 2009, an exploratory study was conducted by the Principal Investigator on the potentials of mobile devices for participatory content development. In the course of the study, a number of factors surfaced and were clustered according to the following: technological factors; content-related factors; user-related factors; incentives; and cost-related factors. The study forwarded the following recommendations:

Firstly, the use of mobile devices as a Web 2.0 platform among rural communities should be tested through an action research study with due consideration given to the factors enumerated above. Secondly, a protocol for online participation and content provision for rural communities using mobile Internet and rich media should be developed again with due consideration given to the factors enumerated above. Thirdly, capability building programs should be designed to upgrade the skills and confidence of the rural user. Lastly, learning modules on Mobile Videography for Rural Users should be designed, developed, and packaged. This current study was conducted in response to the above recommendations with a focus on indigenous knowledge systems.[3]

The Research Problem

The study attempted to answer the following research questions:
1.) How can mobile devices be used by rural communities to document indigenous and local knowledge?
2.) How can Web 2.0 protocols be employed in an indigenous/local knowledge management system?
3.) How will indigenous peoples (IPs) respond to the use of mobile technology in the documentation of their local knowledge?

Objectives

The study has the following objectives:
1. To test mobile telephony and data services as a Web 2.0 platform for the capture, sharing, and reuse of indigenous and local knowledge among rural communities;
2. To design a rich media-based indigenous knowledge management (KM) system;

[3] *Flor, 2002. Ethnovideography: Video Based Indigenous Knowledge Systems. Los Baños: SEARCA*

3. To develop a protocol for online participation and content provision for rural online communities using mobile Internet and rich media; and,
4. To identify and validate factors that related to participation in Web content provision across Philippine indigenous peoples.

Conceptual/Theoretical Framework

Constituent Concepts

The theoretical construct that mobile devices may lead to the active participation of rural communities and indigenous peoples as ICT4D Web content providers is founded on the relationships of three concepts: social capital; the network effect; and critical mass theory. [4]

Social Capital

In recent years, economists and sociologists alike have been closely studying a factor that has been deemed as a necessary element in the development equation. This factor is called social capital as distinguished from financial, physical, human and natural capital.
Social capital has been defined as the capacity of groups to work together for the common good or as the ability to draw on relationships with others especially on the basis of trust and reciprocity.

The sociological definition of social capital is trust, reciprocity, and mutuality that are inherent in social relationships. An economic definition describes social capital as the institutional dimension of transactions, markets, and contracts. [5]

To the above definitions, we venture to add another meaning, which may be considered as communicational in nature. Simply put, social capital is the economic value obtained in institutional or individual networking. Note that reciprocity and mutuality, two concepts contained in the sociological definition, are variables central to networks and network analysis. Hence, this framework posits that social capital is a function of networking and communication, two features of mobile devices.

The Network Effect

Perhaps the most popular IT adage is found in Moore's Law, which states that, technology-wise, computing power doubles every eighteen (18) months. A lesser-known IT principle is the Network Effect. Otherwise known as Metcalf's Law, after the head of the Ethernet development team, the Network Effect states that the total value of a network where each node can reach every other node grows with the square of the number of nodes. [6] Presumably, this exponential increase in value is due to the synergy produced by the interconnectivity of the nodes. More so, the potential value reflects access to computing resources in the Internet. This framework likewise proposes that synergies inherent in social networking will encourage the capture, sharing, and reuse of indigenous knowledge and practices among IP communities.

[4] *Flor, 2004. Social Capital and the Network Effect in Building eCommunity Centers for Rural Development (J.K. Lee, Editor). Bangkok and Tokyo: UNESCAP and the ADB Institute*
[5] *Montgomery. 1998. Social Capital – Research Notes, Cambridge: Pacific Basin Research Center, John F. Kennedy Center, Harvard University*
[6] *Gilder, 1993.* **Gilder Technology Report.** *Gilder Publishing.*

Reed's Law

David Reed, a sociologist and community development expert, applied Metcalf's Law to social networks and arrived at similar conclusions.[7] Social capital may increase exponentially through Intra and Internet connectivity. How may social capital increase in a networked environment? The following reasons are given: superimposing electronic networks on social networks allow individuals to cross easily between these networks; electronic networks provide "doors" between online community infrastructures; access to the World Wide Web increases the potential social capital of a community through the augmentation of its knowledge capital.

Due to the synergy produced in working together as a virtual community, the use of a common platform provided by an indigenous knowledge management system; and the knowledge resources in the World Wide Web available to them individually and as a collective, the potential social capital of any community, even IP groups, may increase exponentially.

Critical Mass Theory

In physics, critical mass is the amount of radioactive material necessary to produce nuclear fission. Since the 80's, social scientists have been applying this term to refer to the number of early adopters necessary to steer the rest of the population into collective action. The Critical Mass Theory developed by Oliver, Marwell & Texeira[8] provides answers to the following questions: What are the conditions for sustained collective action? When does a development intervention assume a life of its own?

The theory was tested through empirical research on, among others, early adopters of rice production technology. In 1987, Markus applied the Critical Mass Theory to interactive media. In general, these studies found that sustained collective action is achieved when a core of members (10 -15 percent) within a group or community engages in mutually reinforcing reciprocal behavior. When such conditions within a critical mass are achieved, then one is assured of a practice spreading throughout the population. In the late 90's, SMS technology reached a critical mass of users in the Philippines. The sharing and reuse of indigenous knowledge captured as rich media via mobile devices may likewise go the same route.

Sustainable Livelihoods Framework

Finally, the study also adopted the sustainable livelihoods approach. It identifies five forms of capital (human, social, natural, physical, and financial) shown below as five corners of a pentagon representing their inter-linked nature. [9]

[7] *http://www.reed.com/dpr/locus/gfn/reedslaw.html*

[8] *Oliver, P., Marwell, G., & Teixeira, R. (1985). A theory of the critical mass. I. Interdependence, group heterogeneity, and the production of collective action. American Journal of Sociology, Vol. 91, No. 3, pp. 522-556...*

[9] *Robert Chapmen et al. Livelihood Approaches to Information and Communication in Support of Rural Poverty Elimination and Food Security. Bridging Research and Policy. Overseas Development Institute (undated).*

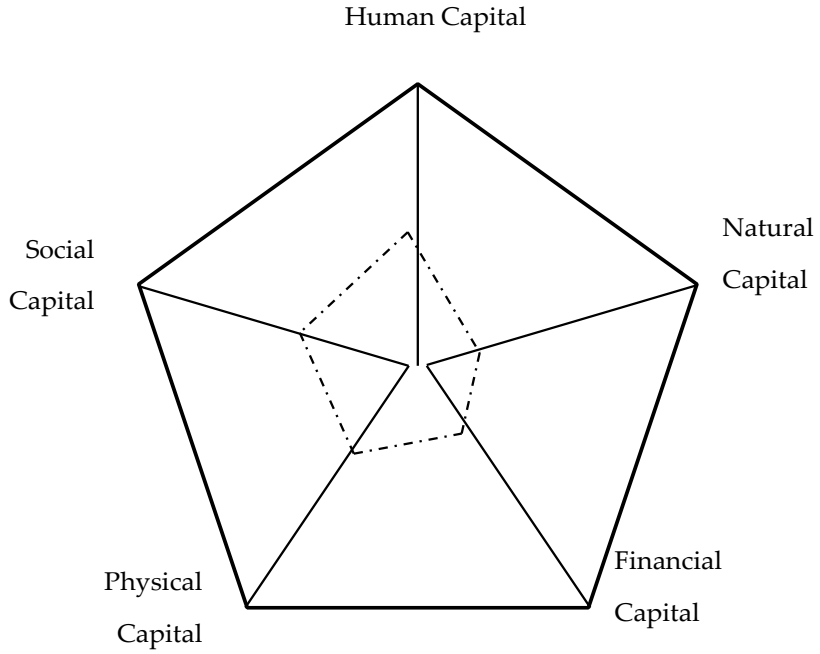

Figure 1. Sustainable Livelihoods Framework

Based on this framework, one may argue that social capital as a sustainable livelihood asset may increase through active ICT intervention, specifically mobile devices employing participatory content development. Assets can potentially be increased with activities undertaken by indigenous peoples through transforming structures and processes represented herein by the application of mobile technologies. [10]

Conceptual Framework

Thus, this study suggests that: ICT4D utilization and content generation among marginalized communities can bring about increased social capital among these communities; and that increased social capital would result in increased utilization and content generation leading to a critical mass of users and content providers.

Conceptually, the study's empirical referent for ICT4D is an indigenous knowledge management system using mobile device video capture and web 2.0 protocols. Its empirical referent for increased social capital is increased sharing and reuse of indigenous knowledge among IP communities. The relationship between these two variables is not merely reciprocal but reinforcing leading into a reiterative loop.

[10] *Flor. 2008. Scoping Study on ICT for Rural Livelihoods in Southeast Asia. International Development Research Center of Canada.*

Figure 2 gives the study's conceptual model.

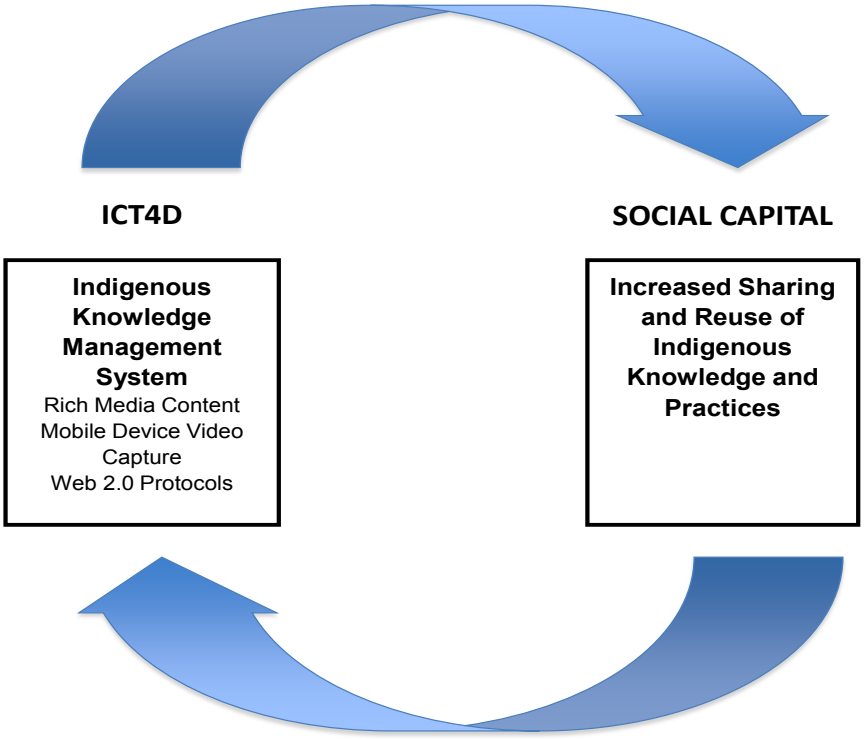

Figure 2. Conceptual Framework

Methodology

Design

This is a quasi-experimental cum action research study utilizing a treatment then observation (or XO) design. The following interventions constitute the study's treatment: capacity development through training and equipment provision; systems development; and pilot testing.

Locale and subjects

With the assistance of the National Commission on Indigenous Peoples (NCIP) and the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), six (6) indigenous communities were identified in the provinces of Mindoro Oriental, Mindoro Occidental, Camarines Norte, Camarines Sur, Misamis Oriental and Misamis Occidental. Twelve (12) focal persons from NCIP and the IP communities were identified for capacity development.

Treatment

Each was provided with a GPRS-enabled mobile phone that had audio-video capture and Internet browsing functionalities, through the sponsorship of the European Union Focused-Food Production Assistance to Vulnerable Sectors Project (FPAVAS). An Appropriate Use Agreement for the unit was signed between the focal persons and FPAVAS. Ideally, mobile data services should be accessible in the identified areas. Otherwise, Internet browsing and rich media uploading-downloading can be done via conventional ISPs, non-mobile devices and public facilities such as

Internet cafes and telecenters. The Principal Investigator developed training modules on mobile videography and trained the focal persons on the video capture of indigenous or local knowledge.

Data gathering procedure

Content development and utilization by the participants was monitored by the Principal Investigator. Factors contributing to the levels of content provision (knowledge sharing), utilization (knowledge reuse) and online participation were observed and discussed at length in key informant interviews.

Distribution and Contribution to the body of knowledge

Preliminary results of the study were presented in the 2010 AAOU Conference in Vietnam. Additionally, a journal article on this study will be prepared for submission to the *Journal of Emerging Trends in Computing and Information Sciences.*

Finally, online learning modules on mobile videography are being prepared by the Principal Investigator for the conduct of continuing education or formal courses for NGO workers, local government units, indigenous peoples, and regular students of the UPOU Faculty of Information and Communication Studies as well. Draft content of these modules have already been piloted on MMS198 students during the Second Semester of School Year 2010-11.

This section includes brief discussions of data collection procedures and analyses. Data must be presented in appropriate tables.

Results and Discussions

Capacity development: Equipment provision

Mobile Device

Through the sponsorship of The EU FPAVAS, each of the twelve (12) participants was provided with a Nokia 5230. Although the model of choice among ethno videographers is still the N93i (now phased out), the Nokia 5230 is cheap, user-friendly, and employs touch screen technology. Among users, it is recognized as a simple "entry-level touchscreen smartphone." It can video record at up to 640 x 480 pixels and up to 30 frames per second on television high quality, widescreen quality, email high quality, and sharing quality. It possesses up to 4x digital zoom.

Figure 3. Nokia 5230

An even more convenient feature is the unit's ability to overcome codec issues. Its video recording formats are the standard MP4 and 3GP. It also supports WMV f ormats, download and streaming video content as well as video feeds. Audio recording formats are likewise standard: WAV, AMR, ACC and MP4. The unit comes with RealPlayer software for landscape mode playback, editing, and assembly.

Image wise, the unit provides four (4) white-balance settings apart from automatic. It has automatic and night scene modes as well as normal, sepia, black and white, vivid, and negative color modes for effects. The maximum clip length is one hour and thirty minutes.

The appropriateness of the Nokia 5230 for this experiment cum action research can be illustrated by way of an anecdote. The oldest focal person in the group was a sixty-year old female chieftain of the Agta Tribe, Felicitas Alano from Itbog, Sta Cruz, Buhi, Camarines Sur. When her Nokia unit was handed over to her, she was not sure what to do with it since she never owned a mobile phone before. Part of the training design was the participants to coach and assist one another on the proper operation, handling, and care of their mobile device. After just a few minutes with her NCIP colleague, Felicitas was already listening to Rihanna's Umbrella on her Nokia.

Figure 4. Felicitas Alano with NCIP FP

Figure 5. Indoor shooting exercises

Capacity Development: Training

As mentioned earlier, IP focal persons were trained by the project on mobile video capture and assembly (shoot-edit). Hence, video clips of local and indigenous knowledge and practices are expected to populate the CMS captured and assembled using mobile devices such as mobile phones or digicams.

(This section describes the course design on video capture of local and indigenous knowledge and practices for indigenous communities in the FPAVAS focus areas.)

Objective of Training Course

At the end of the training course, participants from the IP communities and provincial project management units should be able to capture local and indigenous knowledge and practices on sustainable agriculture through mobile video devices.

Mechanics

The Training Course on Video Capture of Local and Indigenous Knowledge and practices for indigenous communities within FPAVAS focus areas was conducted from 15 to 17 November 2010. The venue of the training course was the SEARCA Training Hall and its Residence Hotel located within the UPLB Campus. The course had twelve (12) participants broken down as follows: six (6) representatives from IP communities within FPAVAS focus areas; and six (6) staff members of the NCIP. The course was learner-centered and employed experiential, participatory, mentoring, and coaching procedures.

Figure 6. Outdoor shooting exercises

Training Materials

The following training materials were provided by FPAVAS to the participants:
1. Mobile video capture devices: digicams and mobile phones;
2. Book: Ethnovideography: Video-based Indigenous Knowledge System published by SEARCA

Training Curriculum

The course was divided into four major sessions: Elements of Video; Ethnovideography; Mobile Video Capture; and the NCIP Draft IKSP Documentation Protocol. Much of the training content is found in the volume, Ethnovideography (Flor, 2003).

Training Plan

The course adopted the following schedule:

Table 1. Training Schedule of Video Capture Course

DAY/TIME	ACTIVITY
Day 0. Sunday, 14 Nov 2010	ARRIVAL OF PARTICIPANTS
Day 1. Monday, 15 Nov 2010. Morning Session	Opening Program: Welcome Remarks, Keynote, Course Overview, Presentation. NCIP Draft IKSP Documentation Protocol Handing over of Mobile Phones/Digital cameras Mentoring Session 1. The Mobile Device Lecture/Discussion/Open Forum 1. Elements of Video
Day 1. Monday, 15 Nov 2010. Afternoon Session	Exercise 1. Outdoor and Indoor Practice Shots Mentoring Session 2. Viewing of Rushes/ Critiquing Lecture/ Discussion/Open Forum 2. The Basic Shots Exercise 2. The Basic Shots
Day 2 Tuesday, 16 Nov 2010. Morning Session	Mentoring Session 3. Viewing of Rushes of Basic Shots/ Critiquing Lecture/Discussion/Open Forum 3. Mobile Video Capture Exercise 3. The Process Shot
	Continued on the next page....

Continued from page 9	
Day 2. Tuesday, 16 Nov 2010. Afternoon Session	Mentoring Session 4. Viewing of Rushes of Process Shots/ Critiquing Lecture/ Discussion/Open Forum 4. Ethnovideography Exercise 3. Documenting Indigenous Knowledge and Practices (Part 1)
Day 3. Wednesday, 17 Nov 2010. Morning Session	Mentoring Session 5. Viewing of Rushes/ Critiquing Exercise 5. Documenting Indigenous Knowledge and Practices (Part 2)
Day 3. Wednesday, 17 Nov 2010. Afternoon Session	Mentoring Session 6. Viewing of Rushes/ Critiquing Presentation: The Way Forward Closing Program: Closing Remarks, Awarding of Certificates
Day 4. Thursday 18 Nov 2010	DEPARTURE OF PARTICIPANTS

Modules Development

Three modules were developed by the Principal Investigator for the study.

Module 1, titled, Introduction to Video contains the following lessons:

1. Essentials

1.1. subject
1.2. light
1.3. sound
1.4. time and space
1.5. motion and movement

2. Elements

2.1. Footage
2.2. Graphics
2.3. Titles/Characters
2.4. Special Effects
2.5. Voice
2.6. Music
2.7. Actualities

3. Properties

3.1. Continuity
3.2. Point of View
3.3. Dynamic Composition

4. Shots

4.1. Fixed Shot
4.2. Long Shot/ Medium Shot/ Close Up
4.3. Wide Angle Shot/ Telephoto Shot
4.4. Low Angle/ High Angle
4.5. Zoom In/ Zoom Out
4.6. Pan Left/ Pan Right

4.7. Tilt Up/ Tilt Down
4.8. Dolly In/ Dolly Out
4.9. Track Left/ Track Right
4.10. Crane Up/ Crane Down

Module 2, titled Ethnovideography has five lessons:

1. Ethnovideography

1.1. A procedure that evolved at Los Baños in the 80s and 90s inspired by Cinema Direct, visual anthropology, and the development of the camcorder
1.2. Initially employed small format video in the study of peoples, communities, and groups (EV1)
1.3. Now uses digital video to capture, share, and reuse indigenous and local knowledge (EV2)

2. Related Developments

2.1. Cinema Verite or Cinema Direct: French filmmakers before and after the Second World War felt that film should record reality not fantasy
2.2. Visual Anthropology
2.3. USC Center for Visual Anthropology: Made use of short film (16mm, 8 mm) & small format video (Beta, VHS, V8/Hi8)
2.4. Reality TV: Made possible by digital video

3. Characteristics of Digital Video

3.1. Group medium
3.2. Both visual and aural
3.3. Electronic
3.4. Portable and unobtrusive
3.5. Provides high resolution images and high fidelity sound
3.6. Can be stored, edited, and assembled in your PC

4. Operationalizing Digital Video Documentation

4.1. Scripts, narration as well as aural and visual effects are not employed in cinema direct productions.
4.2. The use of lightweight, portable equipment is prescribed.
4.3. Camera techniques are unassuming and unobtrusive.
4.4. " Sound is half your film. "

5.Ethnovideography 2.0

5.1. Uses mobile devices (Mobile Videography): Addresses issue of documentation difficulty
5.2. Uses participatory documentation: Addresses issues of ownership & validation
5.3. Uses a Content Management System: Addresses issues of secrecy, repository, community registry system and IPR
5.4. Uses tagged and annotated video clips: Addresses issues of context & validation

Module 3, titled, Mobile Video Capture has the following lessons:

1. The Mobile Device

1.1. The great equalizer
1.2. Mobile phone users in rural communities will eventually reach a critical mass.
1.3. Mobile phone handsets will make ICT services affordable to rural communities
1.4. Mobile device content will efficiently address ICT4D issues such as the language medium, auto-translations, relevance, and the lack of local knowledge.
1.5. Mobile device applications will provide rural online communities with an effective Web 2.0 platform.

2. Execution

2.1. Use the telephoto sparingly.
2.2. Visualize your shots.
2.3. Establish your settings.
2.4. Avoid zoom cuts right after zoom ins.
2.5. Avoid pan lefts right after pan rights.
2.6. Avoid tilt downs right after tilt ups.
2.7. Position yourself properly vis a vis light source.
2.8. Advise subjects to wear pastel colors.
2.9. Remember the "magic hour."
2.10. Observe the rule of thirds.
2.11. Strive to achieve depth throught composition.
2.12. Avoid mutilating your subjects.
2.13. Check your shooting environment.
2.14. Aim at the horizon.
2.15. Match your shots in terms of action and POV.
2.16. Vary your shots according to your subject.
2.17. Master the fixed shot.

Systems Development

The YouTube Option

Initially, the de facto KM platform that was identified for use in the study was YouTube. Each community was to register a YouTube site to "broadcast themselves." They were then expected to monitor the content uploaded by others on a regular basis.

As mentioned earlier, the planned KM system content constitute rich media: audio-video clips on indigenous or local knowledge in agriculture, health, livelihood; and culture in the form of rituals, practices, products, choices, and others. The content itself is visual in nature and would lend well to rich media. Furthermore, rich media overcome written documentation capacity and language barriers. Additionally, they capture "slices of reality" instead of becoming interpretations of reality that written records or text documents are.

However, in the course of the study, it became obvious that video documentation of indigenous knowledge from Philippine indigenous peoples cannot be openly shared on the Web from the point of view of the NCIP. The concluding section of the results and discussion chapter outlines the arguments for this view.

In deference to the above, the study limited its option to the development of a Web Content Management System (WCMS) for Indigenous Knowledge and Practices that will be security enabled and turned over to the NCIP once completed and operational. A CMS is a collection of procedures used to manage workflow in a collaborative environment to do any or a combination of the following: allow for a large number of people to contribute to and share stored data; control access to data, based on user roles (defining which information users or user groups can view, edit, publish, etc.); aid in easy storage and retrieval of data; reduce repetitive duplicate input; improve the ease of report-writing; and improve communication between users. The first three uses are most appropriate to this undertaking (Wikipedia, accessed 12 August 2011).

Video clips of indigenous knowledge and practices will populate the CMS. It will run on a client server located in SEARCA. Eventually, however, the system and the client server will be handed

over to the NCIP after testing and may eventually be adopted nationally by all IP groups.

Content Management System

WCMS is a web-based audio-video file sharing website intended for sharing and reuse of indigenous knowledge and practices through audio-video recordings uploaded by its users and then viewed online.

System Requirements

The content is taggable audio-video clips. Each clip should run no longer than three (3) minutes. System features are: Web-based streaming/uploading; audio-video search content function (by source community, IP group, topic, and language); security enabled (log-in splash screen); user rating, tags, and comments for audio-video; and backend database maintenance by a web administrator.

Solution Strategy

The hardware used for the WCMS is an HP Proliant ML150G6 E5520. It is a SAS/SATA 1 Terabyte HPM AP Server with AEON Processor 2.26 GHz, 8 Megabyte L3 Cache, 80 W.

Figure 7. HP Proliant ML150G6 E5520

Like the Nokia 5230, this unit is a moderately priced, entry level model. For sustainable development applications such as an indigenous knowledge and practices WCMS, the choice of hardware should be guided by replicability and scalability considerations and hence, should approximate least common denominator technology and exclude high-end, high-priced options.

Insofar as software solutions are concerned, the use of the Joomla! open source portal engine and CMS app was initially considered. However, once again considering scalability and replicability issues, the software solution has been limited to PHP Script and MySQL database. All software used are open source.

Conceptual Website Design

The website is designed as follows:
Login page: Members can only access the system
Home page: Display links to different pages of the website, newly uploaded videos, etc.
Upload page: Upload 3-minute videos
Profile page: Edit username, password, email address, etc.
Search video page: Search videos by entering video name, topic, tribe, etc.
View video page: Load video and stream, also add comments and ratings
Backend page: Maintain and edit backend database

Figure 8 gives the high level data flow diagram.

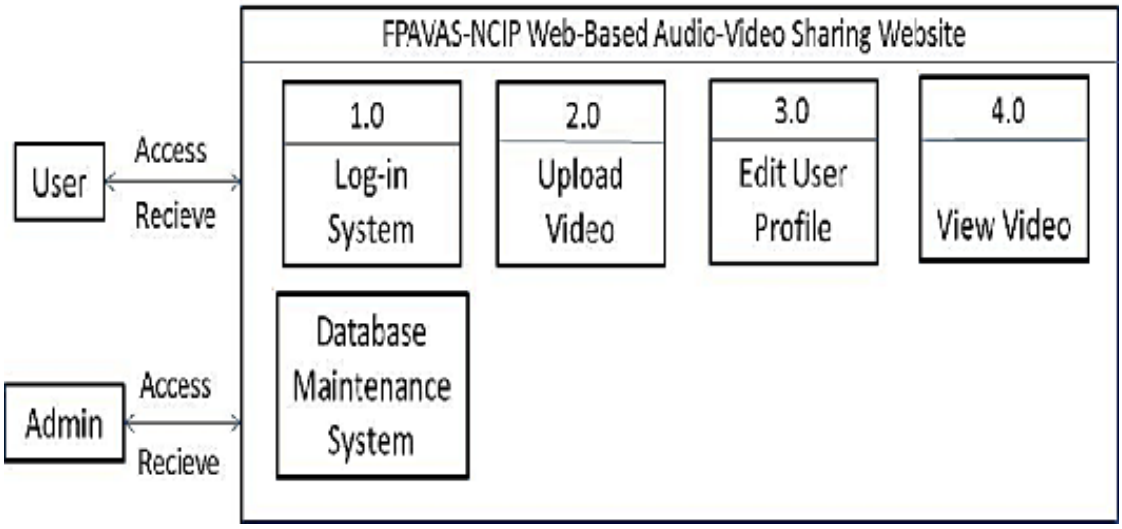

Figure 8. High Level Data Algorithm

As for low level data flows, algorithms for log-in, upload, edit user profile, and view video subroutines are found below.

The Log-In System ensures security management and would limit users to those authorized by NCIP.

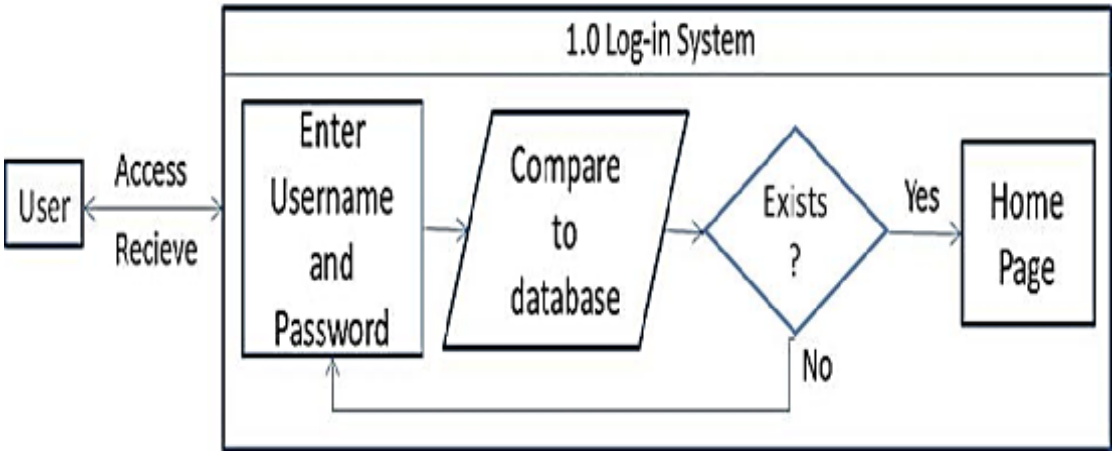

Figure 9. Log-In System Subroutine

The Upload Video subroutine enables IP communities to participate in content generation.

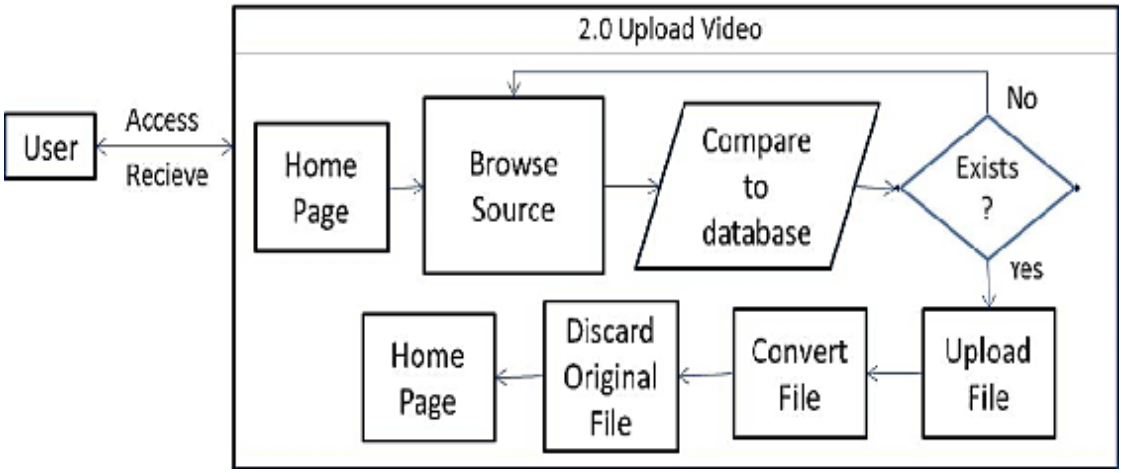

Figure 10. Upload Video Subroutine

The Edit User Profile subroutine allows privacy options.

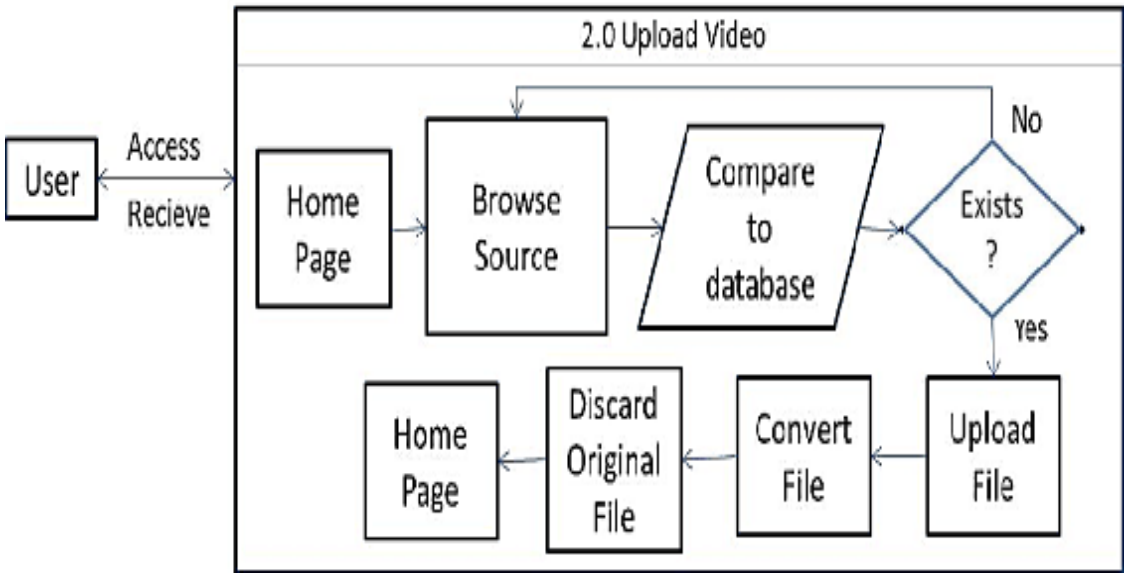

Figure 11. Edit user Profile Subroutine

Finally, the View Video subroutine enables sharing and reuse.

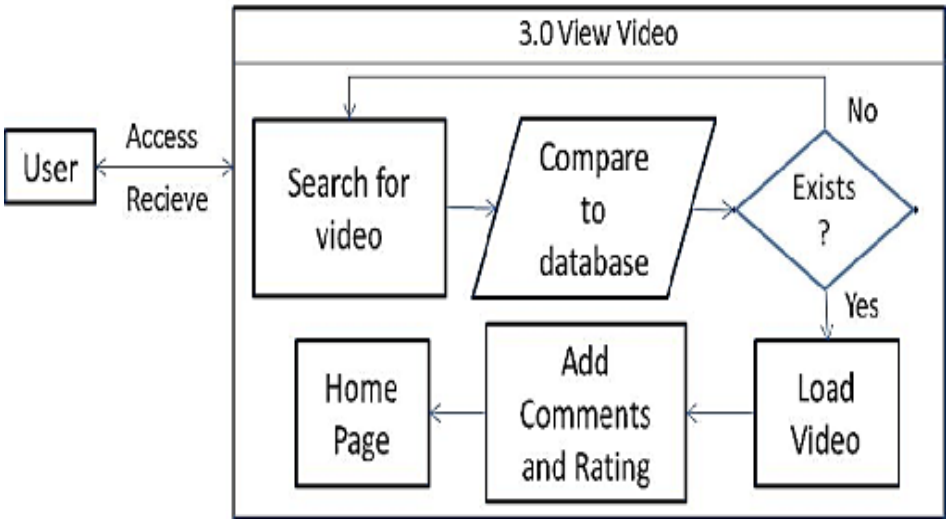

Figure 12. View Video Subroutine

Field Testing

For six (6) months, from 20 November 2010 through 19 June 2011, the video capture protocols were tested by the participants. Since the CMS was developed later than expected, the participants were asked to submit three (3) video clips each of an indigenous practice on sustainable agriculture via email that would populate the MySQL database for purposes of testing and debugging the subroutines. As of 31 July 2011, only one third of the participants have complied.
The video clips submitted followed most of the execution guidelines contained in the Mobile Videography module. Such reflects the technical proficiency of the trained IP focal persons. However, the limited participation rate had to be analyzed and reflected upon by the Principal Investigator. Clearly, the study encountered major challenges - intervening variables - that have shaken its basic assumptions.

Intervening Variables

The inhibiting factors observed and reflected upon by the Principal Investigator were as follows: Honoring Indigenous Belief Systems. Indigenous belief systems closely follow traditional knowledge transfer protocols and epistemologies. As members of the academe, we have all been subjected at one time or another to this tradition that traces its beginnings in the so-called "invisible college."[11]

In earlier times, when knowledge was thought to be the purview of the privileged, the term was applied to secret societies and occult brotherhoods. Many of today's grand academic traditions started out in invisible colleges, well-knit and tightly structured brotherhoods of hooded learned

[11] *NOTE: Young (1998) describes the invisible college as a precursor to the Royal Society of the United Kingdom. It con sisted of a group of scientists including Robert Boyle, John Wilkins, John Wallis, John Evelyn, Robert Hooke, Christopher Wren and William Petty. In letters written in 1646 and 1647, Boyle refers to "our invisible college" or "our philosophical college." The concept of an invisible college made up of a brotherhood of scholars exchanging ideas in restricted gatherings and correspondences spread throughout Europe and was exemplified by networks of astronomers, professors, mathematicians, and natural philosophers including Johannes Kepler, John Dee and Nicolas Copernicus. These societies adopted a common theme, to acquire knowledge through experimental investigation (Owen, 2004).*

men governed by a culture of hierarchy, exclusivity, ritual, and secrecy. In Paris, Oxford, and Rome, these brotherhoods existed for the purpose of enlightenment. A progressive system of initiation, passing, and raising determined the degrees and the level of knowledge of a scholar. Under this system, disciplines began and areas of studies grew. Today, the academe has discarded the secret handshake but still adheres to secret codes through the technical jargon inherent in any discipline. The hood and robe have been retained in academic costumes. The system of seniority, the degrees and the rituals that accompany them have been maintained. Latin and Greek have been replaced with English as the academe's lingua franca. [12]

Indigenous belief systems covering knowledge transfer, sharing, and reuse were likewise guided by this exact same tradition of hierarchy, exclusivity, ritual, and secrecy. Indigenous communities, as a rule, have invisible colleges composed of tribal elders, chieftains, and healers who regard themselves as custodians of knowledge, which may only be shared with prudence, responsibility, and on occasion, sanctity. Like the invisible college of the past, tribal elders regard knowledge as power. Thus, the prevailing belief system dictates that indigenous knowledge on feeding (agriculture) and healing (medicine) cannot just be made openly available to any person who may misuse it or irresponsibly wield the power attendant to it. It is incumbent upon mainstream cultures to honor and respect such belief systems.

Respect of Privacy. Twenty years ago, while developing and testing the ethnovideographic methodology, I conducted fieldwork among the indigenous peoples of Central Mindanao and local upland communities of Southern Luzon (Flor, 2003). With a grant from the Lima-based International Potato Center, I video-documented the indigenous agricultural practices of the Talaandig-Higaonon tribe residing in Mt. Kitanglad in Bukidnon. One practice in particular is the planting of sweet potato, which is one of their staple crops, during full moon, naked. [13]

Like many of their counterparts from all over the world, the members of the tribe plant the crop during full moon, naked. For purposes of academic research, the video capture of such an event may be acceptable and may even be repackaged into a rich media knowledge product. However, uploading this knowledge product to YouTube would be ethically indefensible. The privacy of IP communities should be respected.

Significance of Context. The nature of the video medium is such that the capture of phenomena may be considered as slices of reality within specific points in time. To be considered a bite-sized knowledge product, a video clip is often edited and assembled. On many occasions, the content for the phenomenon observed is edited out.

It must be noted that knowledge cannot be complete without a context. If an indigenous practice captured in a video clip is removed from its context then the knowledge gained can be considered incomplete, inaccurate, and may lead to misunderstanding.

[12] *Alexander G. Flor and Narong Sompong. 2011. An Online Conversation among Southeast Asian Higher Educational Institutions and its Observed Oppressions. Meta Communication for Reflective Online Conversations: Models for Distance Education. (Ugur Demiray, Gulsun Kurubacak and T. Volkan Yuzer, Eds). Hershey, Pennsylvania: IGI Global Academic Publishers*

13 NOTE: The researcher later found that indigenous peoples from other parts of the world adhered to a seasonal calendar dictated by the phases of the moon when planting, harvesting and even fishing. Certain rituals associated with these practices likewise required the shedding of clothes. Thus, this practice may be embedded in the collective unconscious of indigenous peoples.

Prejudice and Value Judgments among non-IP users. In the early 90's, I supervised an Indonesian graduate student who employed ethnovideographic procedures in the documentation and analysis of indigenous agricultural practices of the Naga tribe in Tasik Malaya, West Java. The documentation included sequences of recycling wastes as fish feed, the use of palm leaves as roofing material, the non-adoption of high yielding varieties of rice, and rituals in the nearby forests. These practices are actually based on sound environmental wisdom handed over from one generation to another for hundreds of years (Flor, 2003). However, the initial viewing of the footage by colleagues only highlighted an impression of backwardness among the tribe members.

Mainstream cultures have often prejudged indigenous peoples as uncivilized, lazy, unlearned, superstitious, primitive, and dirty. Thus, there is a tendency among non-IP Web users to judge indigenous knowledge and practices in this light ignoring for innate wisdom in these practices.

Misrepresentation of IKSP. Mainstream and popular culture have often misrepresented and abused indigenous knowledge and practices. Buasen (2010) provides the following examples: the public mimicry of traditional music with no benefit or due regard on the cultural meaning of the expressions and adaptations; the commercialization of textile designs being copied, mass produced as tourist merchandize; covert intentions on the conduct of research on folklore; and the abuse of cultural beliefs. Cases of representation have prompted IP groups to become suspicious of the intentions of researchers and documentors.

Indigenous Knowledge System and Practices (IKSP) Protocols. French, Japanese, and American bioprospecting expeditions in the Philippines have resulted in the patenting of ilang-ilang, banaba, nata de coco, and snails at the expense of Filipino IP communities (Bengwayan, 2003). To address this form of exploitation, the NCIP is putting together a comprehensive set of legal protocols at the community, provincial, and national levels that determine the transfer, sharing, and reuse of IKSP from IP communities. Under these protocols, clearances from the community up to the national agency (NCIP) are required for the capture, digitization, publication, and distribution of IKSP. Thus, they cannot be openly transferred and shared.

Alternative Conceptual Framework

Obviously, the original conceptual framework of the study failed to consider the intervening variables listed above. These inhibiting factors should be juxtaposed within the conceptual model to reflect the findings of the study and to serve as a framework for future studies along this line.

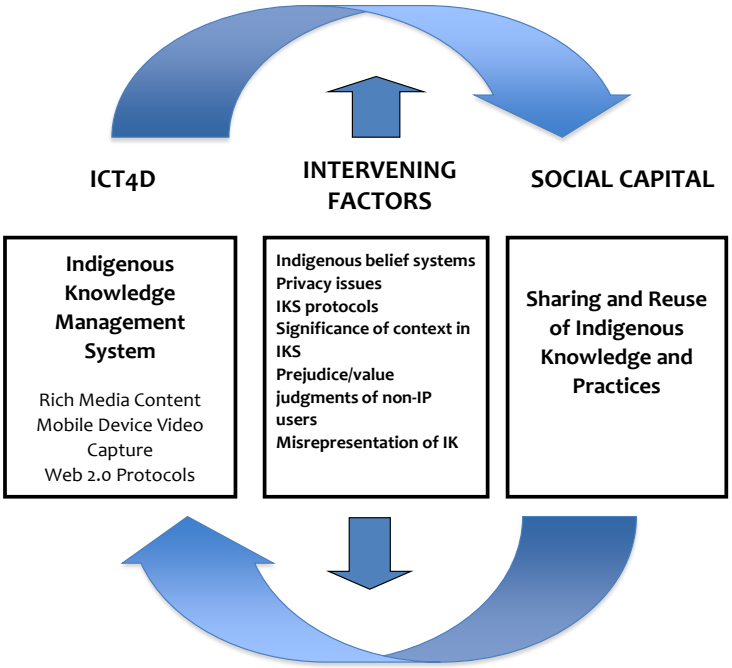

Figure 13. Alternative Conceptual Model

Summary, Conclusions, and Recommendations

Indigenous peoples are among the most marginalized communities in Asia due primarily to access, equity, and quality issues. Developing their capacities to download and share among themselves content from/on the World Wide Web may resolve these issues without much investment in physical infrastructure. The theoretical basis for proposing that mobile devices may lead to the active participation of indigenous peoples as ICT4D Web content providers is founded on the relationships of three concepts: social capital (Cox, 1995; Montgomery, 1998); the network effect (Reed, 2002; Flor, 2004) ; and critical mass theory (Oliver et al, 1985). The primary technological intervention was the mobile device -- GPRS-enabled mobile phones, with audio-video capture, and Internet browsing functionalities.

The following are the answers to the research questions forwarded by the study:

How can mobile devices be used by rural communities to document indigenous and local knowledge?

The provision of entry level, low-cost, user-friendly mobile devices will allow members of indigenous groups to capture their knowledge and practices on sustainable agriculture. Furthermore, the Principal Investigator developed a set of modules that may capacitate rural communities to document indigenous and local knowledge.

How can Web 2.0 protocols be employed in an indigenous/local knowledge management system?

The design and development of a Web Content Management System utilizing entry level, relatively low-cost hardware and low-level open source software will accommodate Web 2.0 protocols in an indigenous knowledge management system.

How did indigenous peoples (IPs) respond to the use of mobile technology in the documentation of their local knowledge?

The concept of open knowledge resources may not be appropriately applied to indigenous knowledge and practices due to a number of inhibiting factors. These factors were encountered during the researcher's study on the use of mobile videography and Web 2.0 protocols for the capture and sharing of indigenous knowledge. The discussion of these factors presented in this paper resulted from casual observation and a cursory review of literature.

As part of the continuing inquiry into open access issues, open knowledge resources and the significance of indigenous and local knowledge in the development effort, the researcher recommends the conduct of a more exhaustive analysis of these issues from the lens of critical theory.

At this juncture, it would only be appropriate to conclude that there are indeed valid exceptions against open access and knowledge commons that require further study and articulation.

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Evaluation of Supplemental Interactive Learning Material for Teaching Physics in University of the Philippines Los Baños

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Abstract

With the advent of new technologies being infused in school curricula, educators and school leaders of higher education in the Philippines have embraced e-learning, which involves technology-mediated teaching strategies and a variety of tools to facilitate learning. In this regard, the University of the Philippines Los Baños (UPLB) through the Interactive Learning Center (ILC) started developing and producing online interactive educational materials known as Learning Objects (LOs), which are now being used by UPLB students as supplemental interactive learning materials in various courses in the university.

This study focused on the evaluation of the LO on Rotation of Rigid Bodies in terms of knowledge gain of the students and determine its effectiveness in terms of attractiveness, comprehensibility, applicability, interactivity, and assessment function. Students enrolled in PHYS 81 (Fundamental Physics 1) during the First Semester AY 2017-2018 were divided into control and treatment groups and subjected to pre-test-post-test for the LO evaluation. Using the t-test of significance, results showed that the treatment group had a significant increase in the mean scores after being exposed to the LO compared to the control group who did not view the LO, indicating that students aided with LO had greater knowledge gain than those without LO supplementation.

Additionally, the Likert scale of scores 1 (strongly disagree) to 5 (strongly agree) was used to evaluate the treatment group's responses on the different components of the LO. Computing for the weighted mean in each component, results showed that most respondents agreed that the LO was attractive (3.86) and that it was both comprehensible (4.38) and applicable (4.16). Similarly, most respondents in the treatment group agreed that the LO was interactive (4.14) and its assessment items were appropriate (4.28) to the program. Overall, the respondents agreed (4.27) and assessed the evaluated LO as an effective supplementary learning material for the physics topic on the rotation of rigid bodies.

Keywords: *interactive learning, learning object, rotation of rigid bodies, UP Los Baños*

Introduction

The field of e-learning is changing so rapidly that there is a growing need for the development of quality of materials as well as to provide excellent and effective pedagogical models and assessment programs (Frydenbeg, 2002). As more institutions of higher education have begun to appreciate and embrace e-learning, which involves technology-mediated teaching strategies and a variety of tools to facilitate learning, it becomes imperative that standards be developed which will ensure quality and consistency in its creation and use (Ortiz & Green, 2019, as cited in Reid, 2019).

One of the online educational materials available that is used as an innovative approach in offering curricular programs is the Learning Objects (LOs). These are short, self-contained, reusable teaching materials that can be aggregated for larger collection of contents and tagged with metadata (Beck, 2010). Each LO is a collection of content items, practice items, and assessment

items that are combined based on a single learning objective (Cisco Systems, 1999). They are small in size and can take on a variety of different shapes, formats, and purposes. According to Griffith et al. (2003), most institutions reported in consensus that LOs can be used in all instructional environments, including campus-based (face-to-face and/or traditional) as well as all types of online instruction, either instructor-led or self-paced. They can also be used to illustrate, support, supplement, or assess student learning.

To support the interactive learning process, the Interactive Learning Center (ILC), which was inaugurated in 2005 at the University of the Philippines Los Baños (UPLB), started the development and production of multimedia materials, specifically LOs, primarily for undergraduate program courses. Among the twelve LOs initially developed was the LO on Rotation of Rigid Bodies for Physics which was chosen as the focus of study.

Objectives

The study specifically aims to determine the effect of LO exposure on the knowledge gain of the students and evaluate its effectiveness as supplemental learning material based on its various components.

Conceptual Framework

The conceptual framework for this study illustrates the factors that will affect the knowledge gain of the students (Figure 1). The dependent variable of the study was the knowledge gain of students. Effectiveness was determined if there is a significant increase in scores from pre-test to post-test. On the other hand, the independent variable pertains to exposure to the learning objects. Using the quality standards (attractiveness, clarity, comprehensibility, applicability, interactivity, and assessment) as variables in the learning object, the effectiveness of the learning object was determined.

The respondents' socio-demographic characteristics as an intervening variable were observed to determine whether it may affect the relationship between the independent variable and the dependent variable.

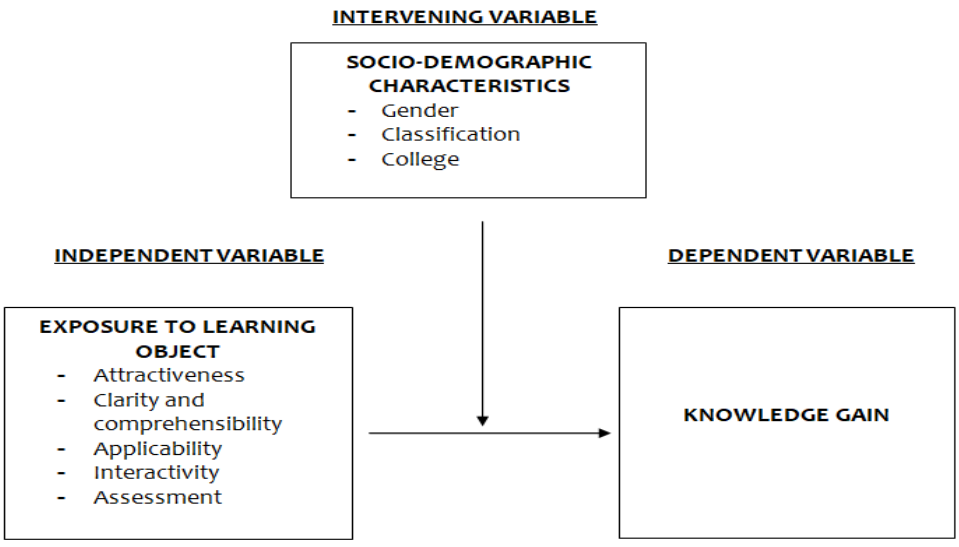

Figure 1. Conceptual framework of the study

Methodology

For this study, the learning object on Rotation of Rigid Bodies in Physics produced by UPLB-ILC in 2007 was evaluated (Figure 2). The study was conducted during the First Semester Academic Year 2017-2018 with the LO evaluation done by students enrolled in PHYS 81 (Fundamental Physics 1). A total of 150 students from two lecture sections were chosen as respondents for this study. Stratified random sampling based on recitation sections was implemented in identifying the 72 students who comprised the control group while 78 students formed the treatment group.

The pre-test was administered to all the students using a nine (9)-item questionnaire. After the pre-test, the students were randomly separated into the control group, who were only exposed to their regular classroom discussion, and the treatment group, who were exposed to regular classroom discussion plus the LO viewing. Both groups were given afterward the post-test to evaluate their knowledge gain. The mean scores, standard deviation, t-test, and z-test were then computed for the analysis of the obtained responses. To determine if socio-demographic characteristics affect the knowledge gain of respondents, Mann-Whitney Test was employed.

In addition, following the Learning Object Peer Review Rubric Adapted from Wisconsin Online Resource Center Interactive Learning Objects Quality Standards (2013), the treatment group was requested to evaluate the LO based on the following components: a) attractiveness; b) clarity and comprehensibility; c) applicability; d) interactivity; and, e) assessment.

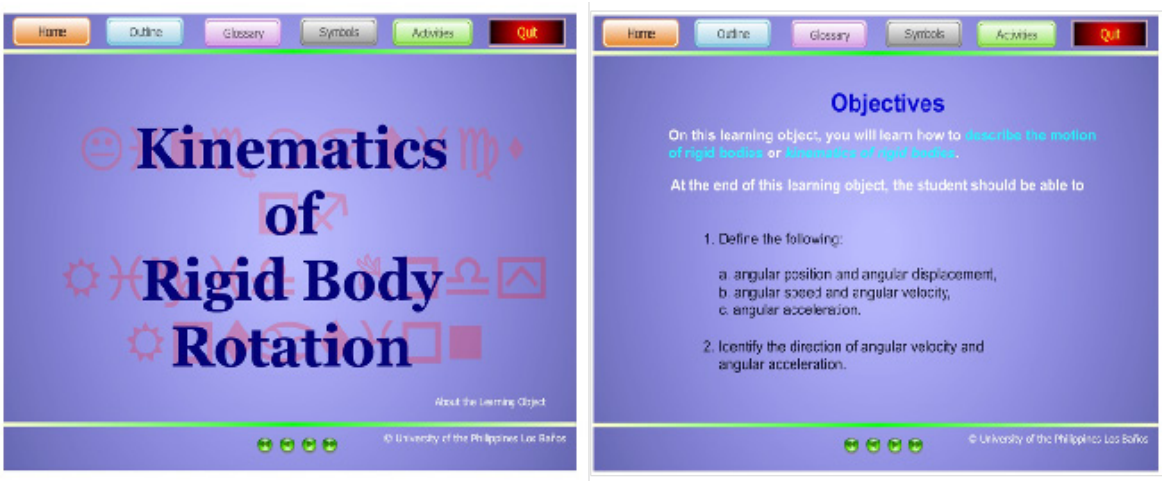

Figure 2. Learning Object on Rotation of Rigid Bodies

Likert scale was adopted to evaluate the students' responses with the following notations: 1-strongly disagree (SD), 2-disagree (D), 3-neither agree or disagree (NAD), 4-agree (A), and 5-strongly agree (SA). Recorded frequencies in each category were used in computing for the weighted mean values to aid in the analysis of the obtained responses.

Results and Discussion

A.) Respondents' Profile

Table 1 shows that more than half of the respondents in the control group were male, comprising 41 out of 72 students (56.94%), while only 43.06% were female. For the treatment group, female respondents dominated the group with 53.85% while males comprised 46.15% of the total respondents.

Table 1. Gender of the respondents

Gender	Control		Treatment	
	N	%	N	%
Female	31	43.06	42	53.85
Male	41	56.94	36	46.15
Total	72	100	78	100

As shown in Table 2, the majority of the respondents both for the control (73.61%) and treatment (80.77%) groups were sophomore students. On the other hand, the least respondents for both groups were either senior or old freshman students.

Table 2. Classification of the respondents

Classification	Control		Treatment	
	N	%	N	%
Old Freshman	3	4.17	1	1.28
Sophomore	53	73.61	63	80.77
Junior	14	19.44	14	17.95
Senior	2	2.78	0	0
Total	72	100	78	100

Table 3 shows that almost 38% of the respondents in the control group were taking BS Civil Engineering, followed by BS Electrical Engineering (27.78%), and BS Industrial Engineering (22.20%). The least degree programs of the students were BS Chemistry and BS Applied Physics, both with 5.56%, as well as BS Mathematics and Science Teaching having only 1.39% distribution.

Table 3. Degree courses of the respondents

Degree Course	Control		Treatment	
	N	%	N	%
BS Civil Engineering	27	37.50	26	33.33
BS Chemistry	4	5.56	21	26.90
BS Mathematics and Science Teaching	1	1.39	2	2.56
BS Industrial Engineering	16	22.20	15	19.23
BS Electrical Engineering	20	27.78	13	16.70
BS Applied Physics	4	5.56	1	1.28
Total	72	100	78	100

On the other hand, the top two degree programs among the respondents of the treatment group were BS Civil Engineering (33.33%) and BS Chemistry (26.90%). Only 2.56% of the total respondents were pursuing BS Mathematics and Science Teaching and 1.28% were taking BS Applied Physics. Since most of the respondents were pursuing engineering programs, students from the College of Engineering and Agro-Industrial Technology dominated both groups, with the rest of the students coming from the College of Arts and Sciences (Table 4).

Table 4. College affiliation of the respondents

College	Control		Treatment	
	N	%	N	%
College of Arts and Sciences (CAS)	9	12.5	24	30.77
College of Engineering and Agro-Industrial Technology (CEAT)	63	87.5	54	69.23
TOTAL	72	100	78	100

B.) Knowledge Gain of the Respondents

Knowledge gain pertains to the performance of students based on the difference of their mean scores in the pre-test and post-test questionnaire.

Results showed in Table 5 that the mean pre-test score of the control group was 2.00 while the post-test score has a mean of 4.23. Based on the t-computed value of 7.87 at 5% level of significance, there was a significant difference between the pre-test and post-test scores of the respondents. It can be concluded then that regular classroom discussion helped increase the knowledge gain of students.

Similarly, the result showed that there was also an increase in the mean score of the treatment group of 5.95 from the pre-test score (1.85) to the post-test score (7.80). Based on the t-computed value of 24.88 at 5% level of significance, there was also a significant difference between the pre-test and post-test scores of the respondents. It can be concluded that regular classroom discussion plus the use of the LO greatly helped increase the knowledge gain of students.

Table 5. Mean scores of the respondents in the pre-test and post-test

Rotation of Rigid Bodies	Control		Treatment	
	Pre-test	Post-test	Pre-test	Post-test
	2.00 ± 1.56	4.23 ± 2.14	1.85 ± 1.34	7.80 ± 1.46

Although the control group has a higher mean pre-test score than the treatment group, with a z-test result of 0.58 at 5% level of significance, there was no significant difference between the pre-test scores of both groups. Therefore, it can be assumed that both groups of students have the same level of knowledge on Rotation of Rigid Bodies prior to the class discussion and use of the LO.

On the other hand, the mean post-test scores of the treatment group (7.80) were higher by 3.57 compared to the mean post-test scores of the control group (4.23). With a z-test result of 11.45 at 5% level of significance, there was a significant difference in the post-test scores of the treatment and control groups with the former gaining more knowledge than the latter. The significant improvement in the post-test scores of the treatment group can be attributed to the use of LO as a supplemental learning material to improve the knowledge gain of the students. From the results, it is advisable then to supplement regular classroom discussions with LOs to enhance the information that will be assimilated by students on a particular subject matter.

In addition, it was determined if socio-demographic characteristics affect the knowledge gain of respondents. Table 6 shows that each of the socio-demographic characteristics exerts significant differences in the knowledge gain between pre-test and post-test both for the control and treatment groups. However, based on Mann-Whitney test, results showed that there were no significant differences between the differences between pre-test and post-test scores across gender, classification, and college affiliation both for the control and treatment groups.

Table 6. Effect of socio-demographic characteristics to the respondents' knowledge gain between pre-test and post-test

Socio-Demographic Characteristic		**Control**		**Treatment**	
		Pre-test versus Post-test		Pre-test versus Post-test	
		p-value	Mann-Whitney Test	p-value	Mann-Whitney Test
Gender	Male	*	.058^{ns}	*	.441^{ns}
	Female	*		*	
Classification	Sophomore	*	.066^{ns}	*	.852^{ns}
	Junior	*		*	
College	CAS	*	.844^{ns}	*	.369^{ns}
	CEAT	*		*	

** = significant ns = not significant*

On the other hand, Table 7 shows that each of the socio-demographic characteristic exerts no significant difference in the pre-test scores of the respondents both in the control and treatment groups. However, the results showed that there were significant differences in the post-test scores of respondents between the control and treatment groups. Based on Mann-Whitney tests, there were significant differences in the scores on gender, classification, and college affiliation between the two groups, with the treatment group gaining more knowledge than the control group. The significant difference of scores based on the socio-demographic characteristic also supports the earlier result that the treatment group gained more knowledge than the control group.

Table 7. Effect of socio-demographic characteristics to the respondents' knowledge gain between the control group and treatment group

Socio-Demographic Characteristic		**Pre-test**	**Post-test**	
		Control versus Treatment	Control versus Treatment	Mann-Whitney Test
		p-value		
Gender	Male	.902^{ns}	*	*
	Female	.349^{ns}	*	*
Classification	Sophomore	.704^{ns}	*	*
	Junior	.609^{ns}	*	*
College	CAS	.316^{ns}	*	*
	CEAT	.924^{ns}	*	*

** = significant ns = not significant*

C.) Evaluation of the Learning Object

Based on the criteria of the Learning Object Peer Review Rubric adapted from the Wisconsin Online Resource Center Interactive Learning Objects Quality Standards and using the Likert scale for evaluation, the effectiveness of the LO was determined in terms of attractiveness, clarity, and comprehensibility, applicability, interactivity, and assessment function.

Attractiveness

Table 8 shows that the majority of the respondents (75.64%) exhibited a positive response indicating that the LO is appealing both in font styles and sizes. Of the 78 students, 18 (23.08%) strongly agreed, 41 (52.56%) agreed, while 6 respondents (7.69%) strongly disagreed.

Similarly, the majority of the respondents (91.03%) indicated that the text used was legible with almost 44% of them strongly agreeing. As to the embedded visual used, more than half (56.41%) agreed that it was not distracting; however, 21.79% indicated otherwise. Some of the respondents suggested to reduce the number of text lines per slide rather use fewer text animations and transitions should be simple to enhance its readability.

On the other hand, 92% of the respondents indicated that the graphs and charts were labeled properly and free from clutter with 55% of them agreeing.

Less than half of the respondents (47.43%) indicated that the use of color and other features such as pictures and clip arts in the LO are aesthetically pleasing. However, 23% disagreed while almost 30% neither agree nor disagree. Some of the respondents commented that the colors used were not complementing each other, too much text animations were used which made the text difficult to read, and the pop-up texts were distracting.

In their overall comments to the LO, most of the students suggested the use of other appropriate color schemes, shapes, pictures and graphics. Others commented to reduce the use of rotating text animations and transitions must be simple to make it more appealing and to further enhance

its attractiveness. Other respondents also suggested to include videos relevant to the topic and to add voice narration for more information and interactivity. Nevertheless, the results showed that almost 72% of the respondents indicated that the overall layout of the LO was presented in an interesting manner.

In general, the respondents agreed and had a generally positive view towards the attractiveness of the LO with a computed weighted mean of 3.86.

Table 8. Frequencies, percentage and weighted mean values of the respondents on the attractiveness of the LO

Attractiveness	SA	A	NAD	D	SD	Weighted Mean
1. The use of font styles and font sizes was appealing.	18 (23.08%)	41 (52.56%)	11 (14.10%)	6 (7.69%)	2 (2.56%)	3.86
2. The text used was legible.	34 (43.59%)	37 (47.44%)	3 (3.85%)	4 (5.13%)	0 (0.00%)	
3. The embedded visuals (text, pictures, graphs) used were not distracting.	17 (21.79%)	27 (34.62%)	17 (21.79%)	15 (19.23%)	2 (2.56%)	
4. The graphs and charts were labeled properly and free from clutter.	29 (37.18%)	43 (55.13%)	3 (3.85%)	2 (2.56%)	1 (1.28%)	
5. The use of color and other features (pictures, clip arts, etc) is aesthetically pleasing.	11 (14.10%)	26 (33.33%)	23 (29.49%)	14 (17.95%)	4 (5.13%)	
6. The overall layout of the LO was presented in an interesting manner.	22 (28.21%)	34 (43.59%)	16 (20.51%)	5 (6.41%)	1 (1.28%)	

SA=Strongly agree; A=Agree; NAD= Neither agree or Disagree; D=Disagree; SD= Strongly Disagree

Clarity and Comprehensibility

Table 9 indicates that almost 95% of the respondents displayed a positive response showing that the LO has a clear purpose that is relevant to the learner.

Forty-five percent (45%) of the respondents strongly agreed that the LO reflected a measurable learning outcome while 48% agreed that it addressed content mastery as well as critical thinking ability. However, almost 12% neither agree nor disagree.

In addition, almost all (94%) of the respondents favorably indicated that the LO helped learners to understand the concept being presented.

Results showed that the respondents agreed that the LO is effective in showing clarity of purpose, learning outcomes, content mastery as well as addressing the critical thinking ability of the respondents, with a computed weighted mean of 4.38.

Table 9. Frequencies, percentage and weighted mean values of the respondents on the clarity and comprehensibility of the LO

Clarity and Comprehensibility	SA	A	NAD	D	SD	Weighted Mean
1. The LO shows a clear purpose (ex. it is immediately relevant to the learner.	42 (53.85%)	32 (41.03%)	3 (3.85%)	0 (0.00%)	1 (1.28%)	4.38
2. It reflects a measurable learning outcome.	35 (44.87%)	38 (48.72%)	4 (5.13%)	0 (0.00%)	1 (1.28%)	
3. It addresses content mastery as well as critical thinking ability.	31 (39.74%)	37 (47.44%)	9 (11.54%)	0 (0.00%)	1 (1.28%)	
4. It helps learners understand the concept that is being presented.	42 (53.85%)	31 (39.74%)	4 (5.13%)	0 (0.00%)	1 (1.28%)	
SA=Strongly agree; A=Agree; NAD= Neither agree or Disagree; D=Disagree; SD= Strongly Disagree						

Applicability

As shown in Table 10, the majority of the respondents (86%) favorably indicated that the LO can be applied to courses in different subject areas with half (50%) of the respondents agreeing with the statement. However, almost 8% of the respondents neither agree nor disagreed.

Majority (54%) of the respondents agreed that the LO can be applied to different programs of study while almost all of the respondents (91%) indicated positive views that it can also be grouped into larger collections of content including traditional course structures. However, some respondents suggested including real-life applications so that students from various majors can easily relate to the topic.

Based on the rating given by the respondents, results showed that the respondents agreed that the LO was effective in terms of its perceived applicability with a computed weighted mean of 4.16.

Table 10. Frequencies, percentage, and weighted mean values of the respondents on the applicability of the LO

Applicability	SA	A	NAD	D	SD	Weighted Mean
1. It can be applied to courses in different subject areas.	28 (35.90%)	39 (50.00%)	6 (7.69%)	4 (5.13%)	1 (1.28%)	4.16
2. It can be applied to different programs of study	26 (33.33%)	42 (53.85%)	6 (7.69%)	3 (3.85%)	1 (1.28%)	
3. Can be grouped into larger collections of content, including traditional course structures.	26 (33.33%)	45 (57.69%)	4 (5.13%)	2 (2.56%)	1 (1.28%)	
SA=Strongly agree; A=Agree; NAD= Neither agree or Disagree; D=Disagree; SD= Strongly Disagree						

Interactivity

As shown in Table 11, almost all (90%) of the respondents indicated positive views that the LO necessitated interaction between the learner and the learning material, which suggests responding and acting to apply higher-order thinking skills. Thirty-eight percent (38%) strongly agreed on that statement.

Additionally, two-thirds (68%) of the respondents favorably indicated that the LO can stand alone, that it is not dependent on other sources such as textbook chapters and videos.

Meanwhile, 33% of the respondents strongly agreed that the LO contains all the information and materials needed to complete the activity. However, 18% of the respondents neither agree nor disagree.Results also showed that great majority (88%) of the respondents believed that the LO is easy to use with almost half (49%) of the respondents strongly agreeing on the statement. However, some students commented that controls were difficult to use with a mouse, and using arrow keys on a keyboard would be relatively easier.

In summary, respondents agreed that the LO was able to support usability and navigation to ensure the independence of its use with a computed weighted average of 4.14.

Table 11. Frequencies, percentage and weighted mean values of the respondents on the interactivity of the LO

Interactivity	SA	A	NAD	D	SD	Weighted Mean
1. Requires interaction on the part of the learner with the learning materials, i.e. responding and acting to apply higher-order thinking skills.	30 (38.46%)	40 (51.28%)	4 (5.13%)	3 (3.85%)	1 (1.28%)	4.14
2. It can stand alone (it is not dependent on external sources (textbook chapters, videos).	29 (37.18%)	24 (30.77%)	17 (21.79%)	8 (10.26%)	0 (0.00%)	
3. Contains all information and materials needed to complete the activity (ex. introduction, summary, learning content).	26 (33.33%)	35 (44.87%)	14 (17.95%)	2 (2.56%)	1 (1.28%)	
4. It is easy to use for the learner.	38 (48.72%)	31 (39.74%)	8 (10.26%)	0 (0.00%)	1 (1.28%)	

SA=Strongly agree; A=Agree; NAD= Neither agree or Disagree; D=Disagree; SD= Strongly Disagree

Assessment

Results in Table 12 shows that almost all (94%) of the respondents gave a positive response that the LO has an assessment that measures the achievement of the stated objective. This is supported by more than half of the respondents agreeing (53.85%) on the said statement. With regard to the responses on whether the LO has an assessment that provides feedback, 52.56% of the respondents agreed while two (2.56%) respondents disagreed.

On the other hand, half (50%) of the respondents strongly agreed that the assessment type was appropriate while more than half (55.13%) agreed that the "Self-Check" or practice assignments provided for quick learner feedback. However, some students suggested having more questions on "Test Yourself" ranging from easy to difficult items. They also prefer to have more examples, word problems, definitions and explanations with regard to the correct answer to the questions.

Overall, the respondents agreed that the LO was effective in its assessment with a computed weighted mean of 4.28.

Table 12. Frequencies, percentage, and weighted mean values of the respondents on the assessment of the LO

Assessment	SA	A	NAD	D	SD	Weighted Mean
1. It has an assessment that measures the achievement of the stated objective.	31 (39.74%)	42 (53.85%)	4 (5.13%)	0 (0.00%)	1 (1.28%)	4.28
2. It has an assessment that provides feedback.	29 (37.18%)	41 (52.56%)	6 (7.69%)	2 (2.56%)	0 (0.00%)	
3. It has an assessment type that is appropriate.	33 (42.31%)	39 (50.00%)	4 (5.13%)	2 (2.56%)	0 (0.00%)	
4. It has "Self-Check" or practice assignments are provided for quick learner feedback.	29 (37.18%)	43 (55.13%)	4 (5.13%)	1 (1.28%)	1 (1.28%)	

SA=Strongly agree; A=Agree; NAD= Neither agree or Disagree; D=Disagree; SD= Strongly Disagree

D.) Enhancement of Learning of the Respondents

The respondents were also asked if the LO enhanced their learning on the topic. Table 13 shows that almost all (92%) of the respondents gave a very positive rating. With a computed weighted mean of 4.27, the respondents agreed that the LO enhanced their learning and they deemed it an effective supplemental interactive learning material on Rotation of Rigid Bodies. This perceived enhancement in learning by the respondents supports the earlier conclusion that as an addition to regular classroom discussion, the use of the LO greatly helped increase the knowledge gain of students.

Table 13. Frequencies, percentage and weighted mean values of the respondents on the enhancement of learning on the use of the LO

	SA	A	NAD	D	SD	Weighted Mean
The Learning Object enhance my learning on the topic	28 (35.90%)	44 (56.41%)	5 (6.41%)	1 (1.28%)	0 (0.00%)	4.27

SA=Strongly agree; A=Agree; NAD= Neither agree or Disagree; D=Disagree; SD= Strongly Disagree

Conclusions and Recommendations

The evaluation of the LO on Rotation of Rigid Bodies by selected UPLB students revealed that it is an effective supplemental interactive learning material that can enhance the knowledge gain of the students. Most respondents also agreed that the LO is aesthetically pleasing although improvements can still be made with regard to its fonts, color scheme, graphics, and animation. In addition, the LO is successful in showing clarity of purpose and learning outcomes as well as on its perceived applicability and interactivity. Overall, based on the weighted mean of each criterion, all values indicate that the LO on Rotation of Rigid Bodies is an effective tool for supplementary teaching and learning of students.

With these results, it is highly recommended that LO viewing be encouraged in supplementing various topics in a classroom discussion since it is found to be beneficial in enhancing student learning. The development of more LOs with readable fonts, simplified visuals/graphics, and more test item questionnaires is also recommended.

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Reflective Writing of New Graduate Students: Their Challenges and Experiences in an Open and Distance Education

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Abstract

The study was conceptualized out of the program educators' reflections on coping and adjustment experiences of new graduate students' transition into their first year of learning in an open and distance education graduate program in nursing. This study explored the questions raised by students during their first year in the program and looked more closely into their experiences and coping that they did in the open and distance education mode in their written reflections during their first year in the program.

The objectives of this research were to identify the challenges and learning experiences revealed in reflective assignments written by new graduate students undertaking an open and distance e-learning education in their first year in an open university in the Philippines and use the written reflections of the students to construct new strategies and practices for the development of the program for the future students.

Keywords: *e-learning, reflections, challenges, experiences*

Introduction

Studying through open and distance learning (ODL) can be problematic for any student, and to ensure that all students in ODL have a good learning experience and succeed, institutions established student-support as one of its components. However, as the demand for ODL continuously increases, there have been issues raised regarding the learning mode. Many studies have focused on the advantages and disadvantages of learning in an open and distance education but only a few focused on the ODL students' experiences in the system. This study explored the questions raised by students during their first year in the program and look more closely into their experiences and coping that they did in the open and distance education mode.

As educators, there is a need to know the challenges encountered by the new graduate students to be able to identify certain problems in the courses offered. Their good and bad experiences will also help educators and other staff in an open university to understand what they are going through, what strategies are working and which are not, which area needs improvement, and what actions need to be enhanced and/or retained. Reflective writing is a good tool to know the feelings, opinions, and reactions of the students towards what they experience in a new mode of education which is distance and open learning.

Objectives

The objectives of the study were to:

1. Identify the challenges and learning experiences revealed in reflective assignments written by new graduate students undertaking an open and distance e-learning education in their first year in an open university; and
2. Use the reflections of the students to construct new strategies for the development of the program in an open and distance learning education for future students.

Review of Related Studies

Open and Distance Learning

Open and distance learning (ODL) is now seen as a legitimate means through which an effective education can be provided (Fozdar & Kumar, 2006). The increased demand has seen ODL becoming an accepted part of mainstream education in both developed and developing countries (Moore & Tait, 2002). ODL as a delivery system provides learners with autonomy in terms of time, technology, and material, also, ODL institutions have developed policies of openness with regard to entrance requirements offering opportunities of learners without access to conventional institutions (Fozdar, 2015).

There are many factors that support that open and distance learning has potential as a means of educating students, first is because of wider access and cost-efficiency. Second is the rapid advancements in educational technologies, like availability of information and communication technologies (ICT) which has given rise to new opportunities for sharing information, resources, as well as experiences, and providing networking opportunities with peers, tutors, professors and the institution itself (Fozdar & Kumar, 2006).

ODL answers the demands of students within and across national borders to be able to have an education without having to relocate and give up work (Evans & Shortall, 2011). According to Moran and Rumble (2004), distance education is more cost-effective and can take place while continuing full-time employment. They also concluded that ODL could be an effective way of providing education for the development of skills required for an untrained workforce. Flexibility in distance learning programs gives chance to study without interfering with personal and social life; with distance learning courses, students can complete their course work from just about anywhere (Vlasenko & Bozhok, n.d.)

According to Komba, D.A., Komba,W., and Senkondo (2006), open learning is a much wider concept than distance education but it is much more difficult to implement since it encompasses all forms of education and training and it can take place within multiple modes. As such, it can be conducted parallel to or integrated with conventional education and training. Open learning refers to a philosophy of learning that is quality-assured, open to people, methods, places, and ideas, is learner-centered, and satisfaction to the person's circumstances and requirements (Angara et al., 2010) while distance education is an educational process in which all or most of the teaching is conducted by someone geographically removed from the learner, with all or most of the communication between teachers and learners being conducted through electronic or print mediums (UNESCO, 2006).

Fozdar (2009) shared the experience of an institution and assessed the potential of the ODL system in skills-development related activities. He examined the role of ODL system in providing education in the development of skills. The author stated that experience would be helpful in understanding the effectivity of the ODL system especially in offering the skill-based program. He also stated that ODL institutions have established strongly and also created extensive infrastructure and reach in India. The research finding provides a framework for offering a skill-based program through open and distance learning.

In the Philippines, ODL services are most pervasive at the graduate level (Largoza, 2003). The use of ODL in the basic and technical-vocational sub-sectors is substantially underdeveloped (Largoza, p. 67). Distance education in the Philippines is provided by a number of institutions, including two publicly-funded ODL providers. Online learning courses are mostly being offered at undergraduate and graduate levels (Madarang, 2004). The most established universities and colleges that have the infrastructure and foundation of quality education offer ODL since it is important to consider the credibility of the institution to offer such online courses and not to mention the financial resources needed (Arcaina, 2005).

OdeL students

Open and distance learning provides openness to students, it offers opportunities to individuals who are disadvantaged because of their location, gender, or economic constraints (Fozdar, 2015). Student attitudes and perceptions on the course instructor, instructors' expertise with technology and ability to overcome interactive problems have been found to be important factors that can influence distance education experience (Salisbury et al., 2002). Murphy and Crosser (2010) stated that one of the characteristics of students in distance education is low self-regulation.

According to McGrath (1995), distance learners have greater freedom to choose how to learn. In terms of theory and practice, Aldred (1996) stated that ODL students have greater opportunities to put theory into practice as they are presented with opportunities to shape their learning so that it is relevant to who they are and where they are at any given time. However, Broady (1995) noted that there are difficulties in developing learner autonomy and that theory, in particular, is discouraging when tackled alone. But despite this concern, Evans and Shortell (2011) believed that modern ODL can encourage learner autonomy through the use of new technologies since they allow learners to carry out worldwide online searches for learning resources and the ease of communication by email allows for learners to consult quickly if the students are having problems. In line with communication, Hyland (2001) pointed out that feedback is very important to distant learners since it may be their only opportunity to get information on their performance.

Bantayan (2007), stated that ODL is not only an advantage logistics-wise but also a benefit for the students in terms of learning. It is claimed that students get more efficient learning since there is more collaboration with colleagues in discussing subjects or courses and the program is more learner-centered. It is also claimed that students undergoing online learning are more motivated to learn and they develop more independence, discipline, and responsibility (Madarang, 2004). But of course, to be able to maximize the potential of ODL, students should be ready and must have a working knowledge of technology, they must understand the content and think critically, they must express themselves competently, especially in the written word in order to contribute to the discussions online (Teehankee, 1999).
A study by Evans and Shortell (2011) compared the advantages, disadvantages, and experiences

of ODL and On-Campus (OC) students who have completed the same Master's degree program in Teaching English at a British university. The results show that ODL students are more satisfied than OC students with their mode of study and ODL is a viable way of course delivery. The study also noted some disadvantages, especially in terms of communication. In some cases, ODL students experience isolation and lack of support from other students and teachers but they accepted it as a part of their choice and was able to strategize to overcome this problem. Overall, the study concluded that ODL students show contentment with their mode of education.

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Another study done by Fozdar (2015) in India National Open University, aimed to develop a program evaluation instrument that can address the unique aspects of ODL science program and carry out a feedback survey using developed instrument in order to understand the profile of undergraduate learners, assess the adequacy, efficiency and usefulness of the print materials and suggest different mechanisms to improve overall teaching and learning environment of the B.S. learners based on the feedback data. The survey findings indicate that students need more counseling sessions and learners were not satisfied

Reflective Writing

Reflective practice is widely used as an important attribute to promote, develop, and foster students in different education programs (Bain, Ballantyne, Packer, & Mills, 1999). Hume (2008) traced the development of student journals over the years that was introduced into a tertiary science education course for pre-service teachers to promote enhanced learning. The findings of the research indicate that students' reflective skills improved and resulted in more focused thinking. The results of the reflection of the students varied but it gave the author a clear sense of direction and purpose in her own professional growth since she was able to modify her teaching approach based on the students' needs.

Thinking about one's experiences is believed to enhance professional learning and growths by helping students to develop an educational philosophy that will guide and improve themselves in teach (Wallace & Louden, 2000). A more structured approach of reflective writing targets student learning of skills and can result in higher quality thinking about teaching and learning (Moore, 2005).

A self-reflection paper done by Mendoza (2013) tackled the state of openness of an Open University in the Philippines. It describes and explains the elements of the openness of the university and the causes and solutions to problems and concerns based on the four parameters of openness which were also described in her paper. The self-reflection of the Open University was based on the results of the survey among the authors' peers and it targeted the viewpoints of the OU academic personnel.

Fish (1991) stated that nursing and care training has a huge emphasis on research and proof-based practice but frequently the trainees face increasingly complex, uncertain, and multifaceted realities of practice which do not generally fit into examination and research; this is why reflection can help regardless of whether students are under training or are qualified professionals, to understand situations. It can help the students increase their new learning and can raise numerous points and inquiries that could help professors/lecturers to do an action plan (Burrows, 1998). The concept of reflective practice has been adopted by the nursing profession as the dominant model for professional practice. By encouraging reflection on practice issues, the practitioner's

skills, knowledge, and professional values will be enhanced and career development and lifelong learning will be promoted (UKCC, 1996).

Methodology

Research Design

This study employed a qualitative research design using the Gibbs Reflective Cycle, a reflection model by Professor Graham Gibbs, as a framework to formulate questions to collect the necessary information from the participants of the study.

Research Locale

The data collection was conducted online through the portal for students of the graduate program in nursing in an open university in the Philippines.

Participants

The participants of the study were graduate students who completed their first year in a graduate program in nursing in an open university in the Philippines. The samples were recruited through convenience sampling. A total of 13 graduate students participated in the study.

Research Methods

The study utilized Gibbs' Reflective Cycle as a framework to formulate the questions used to explore on the reflections of the graduate students on their experiences and the challenges they encountered in an open and distance learning education. The background information of the students, their feelings, thoughts, and good and bad experiences were elicited by means of an online self-administered questionnaire.

Plan for Data Analysis

The study utilized qualitative data analysis in order to highlight the significant points brought up by the participants regarding their experiences during their first year in an open and distance learning environment.

Scope and Limitations

The study focused on the experiences of students enrolled in a graduate program in nursing in an open university in the Philippines. The respondents were recruited from the enrolled graduate students who were currently in their first year in the program. Graduate students from other programs were excluded. Thus, the findings of this study may not be applicable to all graduate students and is only representative of graduate students in nursing.

Ethical Considerations

The study was conducted in compliance with the Data Privacy Act of 2012. The study was explained in detail to the participants, discussing the purpose, objectives of this study, benefits, and risks of

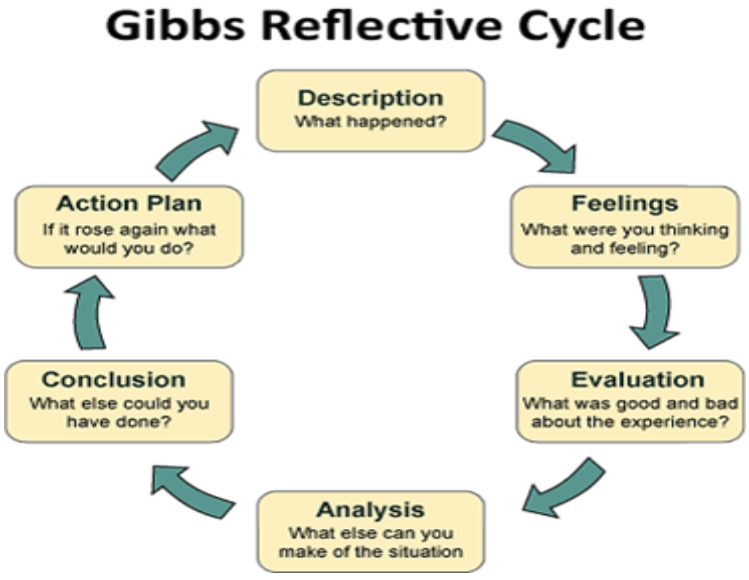
participation as well as the expectations from the participants. Informed consent was collected from all of the participants prior to data collection. The confidentiality of different information was ensured throughout the research process.

Conceptual Framework

The study utilized Gibbs' Reflective Cycle or Model by Professor Graham Gibbs. It is a theoretical model often used as a framework in coursework that requires reflective writing (McGregor & Cartwright, 2007). All the data needed for the study such as background information, feelings, thoughts, and good and bad experiences of the individual were known and used for evaluation, analysis, and conclusion and for making future action plans.

The Gibbs' reflective cycle was inspired partly by Kolb's learning cycle that enables to effectively reflect on incidents and occurrences and learn from them (University of Bradford, 2010). Gibbs' proposes that reflection takes place after an experience. The cycle provides a structure that generally guides the process of reflecting. The framework consists of cue questions, based on key concepts and provides a checklist for learners to work through answering and considering the cue questions as they progress. Gibbs' also describes the application of the reflective cycle to a variety of educational methods including case studies, games, role plays and other simulations (Gibbs, 1988).

Gibbs' reflective cycle is a popular model for reflection and it includes six stages of reflection, presented below. The internal dimensions of the theory reflect its aim and intent, which is to describe the reflection process in education. The system of relations in the theory is cyclical, and the starting point of the reflection process is defined and six stages are interdependent and each informs the next (Dye, 2011).



Gibbs, G. (1988). Gibb's Reflective Cycle. Learning by Doing: A guide to teaching and learning methods. Oxford Polytechnic: Oxford

Figure 1. Gibb's Reflective Cycle

The first part of the cycle is description, this includes background information and factual description of events; it focuses on the information that is relevant. The next part is feeling, this where feelings and thoughts about the experience are discussed. For the evaluation, this is the section that may include the theory and the work of other authors and discuss how well the thing went. The next section is analysis, it is the most important part, especially for higher level writing; this is where someone considers what might have helped or hindered the event and compare experiences with others. In conclusion, it is important to acknowledge, what could have been done, what is learned from the experience and consider other responses to improve things further. Lastly, the action plan sums up everything about the reflection, this also includes what strategies can be made or actions to be done to improve for next time (Dye, 2011).

The strengths of Gibbs' reflective cycle are: it is evaluated as a well-structured and easy model to follow in reflecting on events in clinical practice (Powley, 2013). This framework can be helpful to students at the beginning of a reflective work but should not be used continuously since it does not foster deeper reflection (Moon, 2007).

The purpose of the model is to explore different and new ideas and approaches towards different things, as well as to link in practice and theory by observing or applying knowledge. It also aims at self-improvement by identifying strengths and weaknesses and takes action to be able to address them. The cycle can be really useful in making reflections through all phases of an experience or activity.

Discussions

Among the first-year graduate students, 13 participants submitted their reflections.

Table 1: Participants' Profile

Profile	**Frequency**	**Percentage**
Sex		
Male	4	36.4%
Female	9	69.2%
Age		
Age 21-40	11	84.6%
Age 41-60	2	15.4%
Major		
Nursing Administration	8	61.6%
Maternal and Child Nursing	1	7.7%
Adult Health Nursing	4	30.8%
Gerontology and Geriatrics Nursing	0	0

Table 1 presents the percentage distribution of participants according to their sex, age group, and major tracks. The data showed that the majority of the participants were female (69.2%, n=9) while

the male participants were only n=4, 36.4%. Data also showed that the majority of the participants were from ages 21 – 40 years with 84.6% (n=11) compared to the age group 41 – 60 years old with only 15.4% (n=2). This implies that the majority of graduate students were in their middle age years. The majority of the participants were from Nursing Administration track with 61.6% (n=8), followed by participants from Adult Health Nursing with 30.3% (n=3). There was one participant from Maternal and Child Nursing and no participant was from Gerontology and Geriatrics Nursing.

Favorable Experiences

The 13 participants had variations of answers when asked what they liked most in their first-year courses. One was that they were able to study wherever, whether at home or at their workplace at their own time but at the same time be able to interact with their colleagues and professors during face-to-face or virtual meetings. According to Hill & Song (2007), online studies have many benefits including convenience and flexibility and it is generally believed that online learning gives more control of the instruction to the learners. This was further supported by the study of Wang (2014) wherein students as well as teachers agreed that flexibility is the greatest advantage of open and distance education. However, flexibility in terms of time and space in open and distance education does not always have positive effects on the learning environment of students. Since the students are responsible for creating their own learning environment, there are no restrictions on space. However, Wang (2014) learned that the choice of location of students was due to the lack of a better alternative because of different circumstances (e.g. distractions, other obligations) and not because of the satisfactory learning environment.

In terms of time, it was found that students tended to spend more time on a course that is more flexible and is time-wise. Furthermore, students have the opportunity to learn at their own pace but this becomes an obstacle to collaborative efforts (e.g. group discussions). It is worthy to note that while flexibility is considered one of the benefits of distance education, it also has negative effects on the students' learning environment. The majority of the participants enjoyed the face-to-face meetings during clinical practicum or during orientations since they were used to this kind of socializing. Madarang (2004) stated that students need to develop the necessary social skills that are usually seen in the traditional setting and this is one of the drawbacks of distance learning since their students and lecturers cannot meet all the time.

Another aspect the students liked the most was the theory courses which helped them understand the theories in depth and appreciate their application in actual practice in their workplace. For the majority of the participants, the actual interaction or practicum was their best experience during their first year. For them, it was a great opportunity to study in the open university and the actual application of the theories they learned was a great experience since they were also able to meet their co-students and learn from them. It also made the students feel satisfied when they see their grades and learn that it was beyond their expectations. It made them feel that all their hard work paid off and it became a great motivation for them to do better in terms of both clinical and academic performance.

Studying in an open university made the students feel more independent even though at first they felt overwhelmed by all the things that they needed to do for their studies. This is also concluded in the research of Ryan (1997) that students learn to work well independently and without constant guidance and monitoring of an instructor. Another student stated that he/she liked rising to the challenge of planning and managing time to be able to balance his/her social life, job, and studies. In the long run, they were able to enjoy the experience of learning through distance education

and have better confidence in their own capabilities. The support coming from professors and batch mates were also beneficial in helping students complete their courses successfully.

One student wrote,

> *"My best experience is to experience typing beyond my skills since I'm not good with this. This distance learning changed my profession in a positive way."*

Nicolaescu (2016) said that psychologically, students feel more secure under instructors' guiding before they get used to studying online courses. In spite of all this, the advantages of using technological means are beyond doubt. Also, a combination of the traditional, conventional face-to-face interaction with their teacher with modern techniques in the digital media may be a good transition step for a more independent study with adults.

Challenges

Despite the increasing popularity of ODL and its benefits, it cannot be denied that students who enroll have to face many challenges in studying this mode of education. Most of the students answered their least liked experience was that their queries were not answered immediately; it takes a week or a month before the professor's reply. "Not getting a response to my queries especially the urgent ones are the worst." For the participants, delayed feedback was hard since they were in distance learning education and did not have a face-to-face interaction with the professors every day unlike in a regular university that put them outside of their comfort zone. Since there were delayed responses, they tend to ask information to someone else and sometimes lead to confusion.

This was also stated in the study done by Hannes Guenter (2014), he stated that in many situations, delays in information exchange can have substantial negative consequences for workplace outcomes, especially when the overdue information is needed before further action can be taken and when time is crucial. Delays have proximal effects on people in that they provoke anger and frustration and cause interpersonal tensions.

Other problems such as poor internet connection, online interruptions, technical problems as well as password confusion were also bad experiences for the students for these causes many delays in finishing their tasks, it also delays communication with the professors. "Since we are in the province, power interruptions occur and online signals are not as strong. Portal closed on you during exams due to circumstances beyond your control is worst experience for me." narrated by one of the participants. According to Vlasenko and Bozhok (n.d.), not every student knows how to attend virtual classrooms well and some of them do not have the hardware or software capability to receive videos and other materials via web.

Vlasenko and Bozhok (n.d.), stated in their article that one challenge in distance learning is the difficult technology and accessibility and it is a requirement that a student has a computer with continuous internet facility to be able to access their lessons. This problem was also discussed by Fedynich (2013), he stated that the lack of access either due to logistics or economic reasons, will exclude participants from the cyber class. This is a limitation for all online programs that are reliant on Internet access. For the students, assurance was needed that they would not miss anything for the courses.

According to Musifangi et al., (2015) in their research study on ODL students of the Zimbabwe Open University, that the most reported challenges of students in ODL were lack of sufficient time for study, difficulties in access and use of ICT, ineffective feedback and lack of study materials. Other authors like Zirnkle (2001) also documented challenges like inadequate feedback, poor teacher contact, isolation and poor student support service. Overall, it can be summed up that the main challenge of students in ODL is the lack of feedback and this may prompt more problems in distance learning.

Discipline

Successful students in ODL must be highly motivated and self-disciplined since the course may be unmonitored, the learners themselves have full responsibilities for proceeding with the course and evaluating their mastery of a skill or subject (Duffy, 1997). Kember (1989) argued that poor time management leads to other challenges such as learners' inability to integrate the demands of off-campus study with family, work and other social commitments. Majority of the participants answered that time management was their biggest adjustment when they started their program in an open university. They had to prioritize their responsibilities at work, at home, at school and their social relationships. They had to discipline themselves and change their work ethics to a higher degree to be able to meet deadlines and also be consistent in their work.

One participant wrote, "I manage to budget my time and make sure that I finish all the modules of the subject on time," while another one responded, *"I had to plan my schedule 2-3 weeks ahead of time to cope with reading and course works."*

These were also what they found challenging during their first year. It is a struggle for them when subjects overlap and have the same deadlines for assignments or group work. During the first few months, it was difficult for them to manage time especially when they just relied on announcements online. Later on, students were able to cope with those challenges by learning how to use time wisely by sticking to their schedule and focus on their goals. The key to being able to overcome those challenges was learning to prioritize tasks and not be afraid to ask for help from colleagues, professors, friends, and family. One participant responded, "To cope with the challenges, I learned to prioritize my tasks. I assess which of my activities in the courses need more time to accomplish. I also organized them by classifying which of them are easier and which of them are more difficult."

According to the study conducted by Song et al. (2004), 62% of participants reported that time management of the learner is a key element in the success of online learning. Other factors that were perceived by the participants that could affect this outcome include comfort with online technology (75%) and motivation of the learner (62%). Musifangi et al. (2015), documented that 75% of students of Zimbabwe Open University agreed that one of the biggest challenges is the lack of sufficient time for study and conflicts between work and study schedule.

Strategies for the Development of the Program

Successful learning in every learning environment involves the use of effective learning strategies. Researchers have indicated that strategy use is important in online learning contexts (Hannafin,

et.al., 2003) in that online learning may present challenges to learners that they have not yet experienced in face-to-face classroom learning.

One participant wrote,

> *"I recommend that feedback on FMAs be provided because it will really help students like us in evaluating our performance in the given course during the semester. Feedback of FMAs will give us an idea if we understood the lessons properly and applied the concepts correctly$, and if we're able to perform well in the given course."*

Feedback on performance is so important that Gibbs and Simpson (2004) said that feedback to the students on their assignments was the single most powerful influence on student achievement.

Feedback can also be a way of communicating to students since it can be in the form of questions, suggestions and statements. Thus, feedback in certain FMAs should be provided to students since it will help them improve their work, know their strengths and weaknesses and do actions that will help them with their studies. Professors or faculty should provide feedback for students through e-mail or the student's portal chatbox, even if it just short feedback or comment regarding their work will be helpful. A poll can also help since it can be integrated with Google forms and can be easily accessed online.

Delayed responses were the main problem for the students, their experiences regarding this matter lead them to think that they are being disregarded by the professors. This problem was also discussed by Hara & Kling (1999), The timing of responses from the instructor and peers in an online learning context is another challenge, the response from the instructor is often delayed. Some researchers suggested that time management strategies could help improve this communication problem. Instructors or professors should render time to respond to the queries of the students to avoid this problem. Also, setting guidelines for response may assist in this matter. Instructions on different tasks should be given ahead of time clearly by the professors, as well as the other important schedules to follow to avoid unnecessary questions and confusion on deadlines. It is also essential to have an efficient dissemination system in order to avoid confusions on important announcements.

One participant commented, "Some of the learning tools/website referrals are not working. Maybe modules need to be updated." Resources take different forms, which include but are not limited to human resources and information resources (Hill & Hannafin, 2001). Online learning, with its unique characteristics, presents both opportunities and challenges to learners in terms of resource use. It is important for the program to always update the learning tools for the students since they rely on it for information. The modules should be reviewed and evaluated at least every year to check if it is updated, especially in this new age wherein there are many different trends rising. Giving or assigning students to watch or listen to short lectures can be also a learning tool.

The program should also provide opportunities for updating, retraining and personal enrichment of faculty members, training on the use of technology especially on the use of course sites and websites related to the courses. The program should also provide updated high-quality learning materials by pooling the best resources to provide a higher quality of education to learners and to avoid problems on modules which were previously discussed. The challenge right now is to further improve the guidelines to meet the needs of the learners.

Conclusions

This study explored the challenges and experiences of the new graduate students of a graduate program in nursing in an open university in the Philippines. Findings revealed that the biggest challenge the participants faced was disciplining themselves to stick to their time management plan. The best experience among the participants was being able to study at their own pace and at their workplace since it taught them to be more responsible and independent while the least liked experience was the delayed responses of the professors on their important queries. Strategies or plans of action were constructed according to the challenges brought up by the participants, specifically: (1) giving feedback to students using different online methods such as e-mail, student portal or poll; (2) setting guidelines for responses of instructors or professors; and (3) learning tool enhancement and module review. These strategies should be studied further to be able to enhance the learning experience and provide better quality education for future students in the open university.

Recommendations

It is recommended to know further the challenges and experiences of students in an open university, not just on graduate programs but also on undergraduate programs to be able to improve the open and distance learning education. It is important to review the strategic or action plans discussed in this research to be able to address their issues on the ODL system. Also, it is one step of providing students with a quality education that they deserve and meet their expectations of the institution.

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Perceptions of Students to Open and Distance Learning of Review Classes in a Review Center in the Philippines

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Abstract

The Commission on Higher Education (CHED, 2007) defined review centers as hubs offering programs or courses of study intended to refresh and enhance knowledge, competencies, and skills of students who have already studied in any formal school to prepare them for upcoming licensure examinations given by any license-giving body such as those given by the Professional Regulation Commission (PRC). There were several review centers that offered open and distance learning aside from their brick-and-mortar classes in several locations in the Philippines. This had been possible due to technological advances that led to the distribution of knowledge using internet-enabled services. Review for Global Opportunities (RGO) Review Center, a CHED-accredited review center, was one of the leading review centers in the field of psychometrician review in the Philippines with having over 10 awards for the past 3 years and it has been offering the face-to-face classes in their review program for aspiring psychometricians. This 2018, RGO offered a home-based study program and delivered online. The study examined the perception of students enrolled in the said distance learning review program for aspiring psychometricians by RGO Review Center using a survey questionnaire partially adopted from Alam, Waqar, Zaman, Shehzadi, and Mehmood (2012) to provide a better understanding to predict student satisfaction, especially in online learning environments.

Keywords: *perception, distance education, open and distance learning, review center, Philippines*

Introduction

Evolutions in communications technology have made drastic differences in our society for the past few decades, changing even educational horizons. One change we see now is education which we have been talked about for some time now. This gave birth to a new form of education we now call distance education. Distance education is defined by Simonson, Smaldino, Albright, and Zvacek (2008) as education having a distance: distance being geographical distance, time distance, or even intellectual distance. Furthermore, Schlosser and Simonson (2006) define distance education as an "institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors" (as cited in Simonson,2003, p. 216), as such, distance education overcomes challenges posed by geographical, time, and intellect distance.

Simonson, et al. (2008) discussed Dan Coldeway's framework that differentiates the practice of education in four ways: same-time and same-place education, same-time and different-place education, different-time and same-place education, and different-time and different-place education. According to Simonson, distance education occurs when the geographical distance is present, such as in the two remaining practices of education: same-time and different-place education, and different-time and different-place education. Same-time and different-place education, also known as synchronous distance education, occurs when a distance education

topic is delivered through media that allows communication at the same time, such as video conferencing, long-distance calling, and chatting. On the other hand, asynchronous distance education is characterized by having a different-time and different place process of education. This can be done through discussion forums, uploaded educational materials such as documents, videos, and recordings, among others, made available to be accessed by the learners any time at any place (Simonson, et al., 2008).

There are certain factors as to why students enroll in a course offered via distance education. For example, Messo (2014) surveyed 305 participants and found out that most of them would like to self-study, while the second reason was due to time constraints, and the least was due to schedule issues. Another research by Alam, Waqar, Zaman, Shehzadi, and Mehmood (2012) found out that students chose distance education due to work commitments while closing in with the flexibility of time and location at the second.

Telecommunications evolution provided avenues for Filipinos to learn from others even at a distance. Bandalaria (2007) wrote about the development of open and distance learning in the Philippines that was divided into four generations, characterized by the different technological advancements within each epoch: (1) first-generation DE via radio technology; (2) print-based materials with supplementary, non-compulsory face-to-face classes and/or with instructional content via radio; (3) print-based materials and pre-recorded supplementary audio or video materials; and lastly and currently, (4) fourth-generation DE via different affordances (e.g., discussion forums, chats, Web-browsing) made possible by the internet.

There are certain ideas surrounding the definition of perception, especially when applied in various fields. However, we can define perception as the constructive lens people use as they see a certain thing which clearly affects how they perceive that certain thing (Schmitz, 2012, Creative Commons). Moreover, perception is defined by Messo (2014, p. 119) as "an idea, a belief or an image one has as a result of how he/she sees or understands something." Perception, however, shall be noted by the context as told by Isman, Dabaj, Altinay, Z., and Altinay, F. (2004) since it can be influenced by different factors which can mainly be gender, demographic, and psychographic considerations.

Perception studies in distance education have been done in various countries and universities. In 2008, Sahin and Shelley studied and considered the students' perceptions in the case of student satisfaction of distance education students and found out that computer knowledge and attitudinal factors affect student satisfaction in distance education and that if computer knowledge is inadequate, students might not be satisfied with the quality and appropriateness of education. Another study by Schifter (2002) found out that faculty, motivated by intrinsic motivations such as job satisfaction, contributes much to the success of a distance education program. Messo (2014) found out that there is a question of quality in open and distance learning in Tanzania due to the results of his study that some learners had positive perception of the registration, quality of course materials, clear syllabi and course objectives, and access to their instructors but, on the other hand, had negative perceptions about the sufficiency and timely delivery of educational materials, quality of interaction and interactivity, access to internet services, and staffing.

With these researches, we can see that perception studies in distance education varies in results due to the variety of how the management of distance education institution handles it, considering

distance education is viewed as a system, and because of some considerations such as gender, demographics, and psychographics.

In 2007, the Philippines' Commission on Higher Education (CHED, 2007, p. 2) defined review centers as a study center "…that is intended to refresh and enhance the knowledge or competencies and skills of reviewees obtained in the formal school setting in preparation for the licensure examinations given by the Professional Regulation Commission (PRC)."

There is limited literature concerning review centers, even in the Philippines where there are many review centers offering programs in accordance with the licensing policies of the PRC, the government agency established to assess and give qualified people the authority to practice their profession in accordance to the law.

One review center in the Philippines, the Review for Global Opportunities (RGO), was established in 2006 and shifted focus in 2014 to their psychology program or, specifically, their review for psychometricians. In a span of 4 years, they have already established themselves as the leading provider of the psychometrician review program in the Philippines, garnering awards and registering 88 top-notchers for the Board Licensure Examination for Professional Psychometricians (BLEPP) to their name. This 2018, RGO offered its first distance education review program to cater to the needs of the markets especially for those students who are traveling for just to attend review classes and those who have commitments that limit them to attend physical attend classes for a minimum of 16 hours per week.

The pilot distance education review program of RGO was done through print-based materials and online education. Their print-based materials are composed of examinations and books which were adopted from their face-to-face review program that they started offering since 2014 while their online education is situated in Facebook where students are given live and recorded videos of their face-to-face classes, and uploaded online review materials such as review notes, mock examinations and their respective exam keys for self-checking.

Objectives

Having a pilot program certainly needs to have an analysis of its strengths and weakness, especially on the perceptions of its students. Thus, we adopted some research questions from Alam et al. (2012) towards understanding students' perception of the effectiveness of the review and predict student satisfaction given their online learning environment:

1. What demographic characteristics exist for distance learners?
2. Why did students choose the distance learning mode formats?
3. What are the student perceptions of teaching by distance?
4. What are the student perceptions of learning by distance?
5. What are the student perceptions of learner support services?

Conceptual Framework

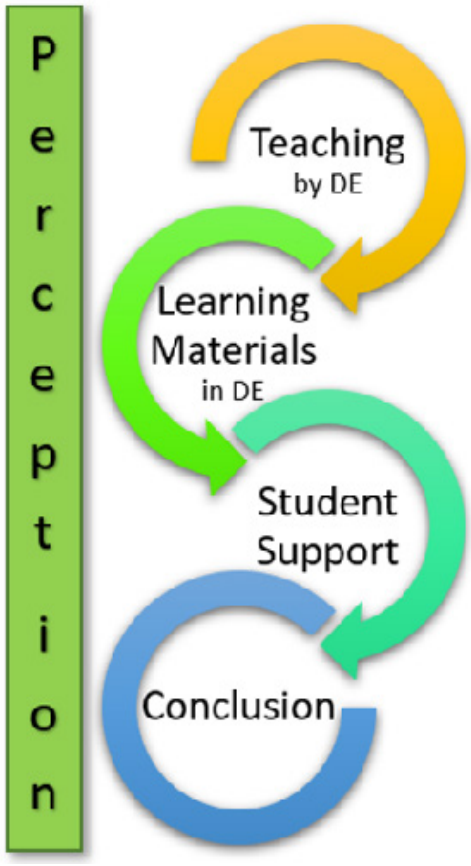

Figure 1. Conceptual Framework

This research exposes the perceptions of students in three different points of distance education: teaching, learning materials, and student support. With their answers, we arrive to the conclusion towards a better understanding of student satisfaction and provide a better distance education experience in the next implementations of the distance education review program.

Methodology

A survey questionnaire was posted in the exclusive Facebook group where the members are only the students enrolled in the said distance education review program. Therefore, this research adopted a survey research method in order to understand the heart of the sample. Kraemer (1991, as cited in Glasow, 2005) says that there are three characteristics of survey research: quantitatively describe specific aspects in a population; subjective data are collected from the sample and uses a selected portion, or a sample of the population that enables the findings to become generalized to the population. The design seemed appropriate since the samples are geographically distributed across the Philippines, and only accesses the review program online.

The study was conducted in August 2018 to October 2018. This period seemed to be a great time to ask the students of their experiences about the review program because they are already halfway through and their board exams are drawing nearer.

Results and Discussions

There are currently 184 students enrolled in the program. However, there are 3 inactive accounts of their students inside the exclusive Facebook group which lowers the intended sample size down to 181. Out of the 181 eligible samples, only 23 responded to the survey.

A.) Demographics

The respondents of the study are predominantly females because the enrolled students are also of those statistics (Table 1). Also, most of the reviewees are in the range of 20-29 years old due to being fresh graduates. Fresh graduates are those who just recently graduated in the same year as of writing (i.e. graduates of 2018). However, there would be some students who are not fresh graduates because the BLEPP was only first given in 2015 and did not have the chance to take it immediately after they graduated. This also explains the domination of the respondents who are single than married. Being dominated by fresh graduates, they would only have the minimum work experience or no work experience at all, or only below the six to nine years range of work experience.

Table 1. Demographics of the Respondents

Biological Sex	
Male	2
Female	21
Age	
20-29 years old	21
30-39 years old	2
Marital Status	
Single	19
Married	4
Work Experience	
0-2 years	15
3-5 years	6
6-9 years	1
10 years and above	1
N = 23	

There are various reasons of students to choose distance education rather than having face-to-face classes. In the given survey, five reasons of which they can choose one or more that applies to them. Most of the participants said that they have chosen to enroll in a distance education program due to the flexibility of time and location. As such, 16 or 69.6% of the sample have chosen the said reason. Coming in second was due to their work commitments. Twelve (12) or 52.2% of the participants said that they chose distance education because they had something that occupies a big chunk of their time which is work. Next is due to their family commitments. Family commitments are those commitments that are "familial" in nature or something that stems in the family (Zastrow & Kirst-Ashman, n.d., as cited in Mental Health America of Northern Kentucky & Southwest Ohio, n.d). Eight (8) respondents or 34.8% said that they had these types

of commitments that made them choose the distance education program. The last in the given choices was because the requirements in distance learning are more relaxed to which three respondents selected that choice. One (1) respondent (4.3%), however, said that she chose the distance education program because of it is cheaper than the conventional face-to-face review classes offered by the same review center.

The distance learning review program offered various additional benefits aside from learning. Most of the respondents said that their reason to choose the distance learning review program was because of the flexibility of time and location. This goes consistently with Vlasenko and Bozhok (2014) that distance education closes the gap created by geographical or time concerns. Also, some have commitments of work or familial nature. These types of commitment are hard to negotiate or compromise due to their degree of responsibility. Alam et al. (2012, p. 514) also stated that "Graduate level professional schools have been particularly hard hit as many graduate students need to negotiate work and family obligations while completing their coursework." Although a review program is not considered graduate level, reviewing for a licensure exam requires a student to have been finished a degree corresponding to the license which should have provided the adequate coursework to understand or even review/refresh learning from that degree.

B.) Student perceptions of teaching by DE

In assessing the teaching process of distance education, three statements were given, and respondents were asked to respond in a Likert scale ranging from strongly agree to strongly disagree, with another option of not observed if the given statement were not observed during the period of the program. These three statements were:

1. The facilitator provided prompt feedback on my assignments.
2. The facilitator used the relevant instructional medium.
3. The content of the sessions met my expectations.

The group of respondents was torn towards receiving prompt feedback as this is subjective. However, the exams were given as early as students enrolled and feedback was just given after a few months. This long waiting may have resulted into only 12 respondents agreeing that this is a prompt feedback, while 11 respondents were either neutral or disagree towards promptness.

Most students agree that the instructional medium was relevant. This is because they were given print-based materials such as books and mock examinations and were given additional video lectures and uploaded materials. Being in a distance learning program requires a high degree of independence, especially in learning which might have been understood by the students.

Eighteen (18) respondents agree that the content given met their expectations because study materials have a high degree of self-explanation. However, the five respondents who disagreed might seem to have not expected that the videos would only be live rather than pre-recorded videos that are adjusted for distance learners who do not have the luxury of time to watch hour-long videos like the live videos given to them (Table 2).

Table 2. Student Perceptions of Teaching in Distance Education Mode

Responses	The facilitator provided prompt feedback on my assignments		The facilitator used the relevant instructional medium		The content of the sessions met my expectations	
Strongly Agree	2	8.7%	8	34.8%	5	21.7%
Agree	10	43.5%	14	60.9%	13	56.5%
Neutral	8	34.8%	1	4.3%	1	4.3%
Disagree	1	4.3%	0	0.0%	4	17.4%
Strongly Disagree	0	0.0%	0	0.0%	0	0.0%
Not Observed	2	8.7%	0	0.0%	0	0.0%
N = 23						

C.) Perceptions of DE learners towards learning material

There were four statements given to measure the respondents' perceptions of the learning materials given in the distance education program. These statements were not just about the materials, but also the affordances used, and the workload given on the program. The given statements are:

1. Learning materials were self-explanatory
2. Group discussions were found useful
3. Use of computer and internet increased
4. The workload in the program was too much

As seen in Table 3, there are a total of 16 respondents who agreed that the learning materials were self-explanatory. However, the remaining seven respondents might have experienced difficulty in understanding the learning materials especially the online ones. Most of the learning materials were in an examination form, to which they would answer. However, most of the exams do not have any concrete instructions and just consisted of questions about the certain subject. Also, the uploaded notes and live videos only had their title, and the only instruction given was to read them or watch them.

The agreement of some of the respondents regarding group discussions might have resulted into seeing the question and answer part on the comments on the post. However, there was not any group discussion aside from student-prompted questions. The review program did not formally include any group discussion or points of interaction between lecturers and students, but they provided an avenue for the students to ask and receive answers from the lecturers. This situation explains the conflict on the opinions of the respondents.

The majority of the respondents agreed that their computer and internet usage increased due to their enrollment of the program. The given higher responsibility to study creates a need for them to use the computer and internet to maximize their learning towards being ready for the board examinations.

Students enrolled in the program were given drill questions to train their mental stamina and improve cognitive knowledge. However, this might have posed a problem towards the two respondents who strongly agreed that the workload was too much. Most of the respondents, however, did not agree that the workload was too much. The review center lacked instructions or a schedule that will serve as a guide for the students as to when they should answer and/or study the drill questions, which might have resulted in students doing much of a workload at a time than having it on a schedule to avoid workload congestion resulting in a heavy cognitive load.

Table 4. Perception of student support services in distance learning

Responses	I received enough information from RGO about my study		I received prompt feedback about my inquiries on the program of study		There are enough study facilities to help with my program	
Strongly Agree	5	21.7%	6	26.1%	5	21.7%
Agree	12	52.2%	11	47.8%	12	52.2%
Neutral	6	26.1%	3	13.0%	3	13.0%
Disagree	0	0.0%	3	13.0%	3	13.0%
Strongly Disagree	0	0.0%	0	0.0%	0	0.0%
Not Observed	0	0.0%	0	0.0%	0	0.0%
N = 23						

Conclusion and Recommendations

The results of the study reveal that there is much to be learned about the difference between the system of a review center and a formal educational institution that offers distance education. The program might have seemed preferred by young individuals and those who have been in their own industries for quite some time. However, the circumstances surrounding the psychology program such as having more female practitioners than male practitioners, and the preference of the younger respondents towards reviewing and taking the board exam might have largely affected the results of the study.

On the preference of the students, most of the respondents agree that distance learning offers flexibility in terms of time and location, saving them time and driving them to learn even if they

have responsibilities stemming from various sources such as work, family, and others.

There is much to improve for the review center that adopts distance education for their review program. One mistake of institutions that pilot a distance education program is the belief that they can just make materials always accessible and call it a form of distance education. However, distance education is much more than converting offline materials into online. Distance education requires planning, a systems approach, and other factors that might deviate from the current system adopted of the review center that focuses on their face-to-face review classes rather than their distance learning program that contributes least to their profit.

With these, there are a number of possibilities regarding the use of distance education. However, one must take note of their strengths, weaknesses, opportunities, and threats if ever they have started one. Distance learning, together with telecommunications evolution, has been through the test of time to be regarded as one field of study; some even say that it can replace current educational practices that have been practiced for most of our history. This might not be a goal, but we need to take note of the perceptions of our students regarding teaching, learning, educational materials, and student support. All these things go together towards a successful distance education program that is cost-effective, efficient, and most importantly, effective.

Implementing a pilot review program via distance education, just like any other programs that are new, exposes a lot of room for improvement. Thus, there are seven recommendations that the researcher provides to increase student satisfaction for the upcoming implementations of the said review via distance education:

1. Establish learning plan or learning schedule for students that can elaborate on what week they should answer a certain exam and study a certain material. This calls for us to segregate files not only by lecturer, but also by week to let the students know what they should study at the time.
2. Give prompt feedback especially answers to drills. This can be done through uploading self-grading assessments.
3. Although there is a respect for the intellectual property rights, lecturers shall agree for their materials and presentations to be downloaded by the students. Lecturers can set PowerPoint presentations in .ppsx form and documents to .pdf and lock copying and pasting methods to ensure that their materials are only in read-only mode.
4. Group discussion, even in asynchronous form, shall happen. This closes the gap between the advantage that face-to-face students have by asking the lecturer questions and the home-based student to ask the same question to the lecturer. Although this is possible by private message, it is better if the answer is shared to all members of the group.
5. Learner support that includes step-by-step registration and enrollment, how to learn successfully via distance education, and transferring from face-to-face review to home-based review shall be clear to all learners, administration, and coordinators (for transferring).

Distance education can be and has been applied to a plethora of contexts. However, this study found out that there are some contexts that are still lacking in literature which still needs to be sought. Hence, the researcher recommends the following research in the future:

1. Study on the management in terms of business, education, and other applicable fields of study (i.e. motivation theory) in the context of review centers that offer reviews for various professional eligibility exams;
2. Quality assurance in distance education of other educational institutions especially review centers; and
3. Comparative study between the implementation of DE between different learning contexts including higher education institutions (HEIs) and review centers.

Review centers, just like any other HEIs, create their own brand of education that it can be studied as to what is common within every review center especially in the context of education.

Various distance-learning programs are already everywhere, and some of which are still on their trial and error period. while other educational institutions are thinking that their program is enough where in fact they might be missing the point of education. These are the reasons why the researcher sees the importance of further studies towards the management, quality assurance, and comparative analyses that can give light to an educational service that has been present in the Philippines for a long time and that was seldom written about.

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We call on colleagues, such as academics, researchers, technology developers, and open distance e-learning experts to submit their articles for publication in the International Journal on Open and Distance e-Learning. The IJODeL is a semestral journal, hence it comes out every June and December of the year.

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Template for Quantitatively-Oriented Articles

Title of Article

Author 1[1]and Author 2[2]

[1]Position, Institutional Affiliation, Country, Email address

Abstract

Abstract in 150-250 words.

Keywords: No more than five (5) keywords.

Introduction (Center Heading 1)

This section contains a clear historical background of the study, showing why the research had to be undertaken. In this section, the author(s) shall have the opportunity to expound on what the research says about the research problem, and show clear support for the need to undertake the research, through appropriate research gap analysis.

Objectives (Center Heading 2)

This section provides a clear statement of the goals and objectives of the research.

Conceptual/Theoretical Framework (Center Heading 3)

The conceptual or theoretical framework would be expected for research studies that dealt with empirical procedures and methodologies. A framework of this nature would provide for clear interrelationships and direction of interactions of variables which the researcher expects to show by his/her data and data interpretations. It should be noted that variable interactions may be easier to understand if they were to be presented in illustrated model formats.

Methodology (Center Heading 4)

This section includes brief discussions of data collection procedures and analyses. Data must be presented in appropriate tables.

Results and Discussions (Center Heading 5)

Analytical discussions must present possible relationships of the results of the study and the findings from other studies specifically reviewed for this purpose. Post analysis data may be presented in both statistical tables and appropriate models and figures.

Include subheadings as are necessary.

Conclusions and Recommendations (Center Heading 6)

Conclusions must be according to the objectives of the study.

Recommendations must reflect the objectives and conclusions of the study.

References

General format must follow the suggestions for authors, but generally must follow the APA Style for publications.

Template for Qualitatively-Oriented Articles

Title of Article

Author 1[1] and Author 2[2]

[1]Position, Institutional Affiliation, Country, Email address

Abstract

Abstract in 150-250 words.

Keywords: no more than five (5) keywords

Introduction (Center Heading 1)

This section contains the historical background of the study, including specific reports and studies that provided direct support to the research problem. Some relevant part of the literature shall be included in the discussion of the research problem to establish more strongly the need to undertake the study.

Objectives of the Study (Center Heading 2)

This section contains both the research over-all goal and the specific objectives to be attained.

Relevant Studies or Review of Related Studies (Center Heading 3)

Review of studies that are highly related to the current study. After the relevant studies have been presented, a synthesis of these may be presented and the relationship of such synthesis must be related to the study under consideration.

Subheading may be determined as necessary. In these subheadings, specific observations may be noted and statistical tables presented as well as figures and models.

Discussions (Center Heading 4)

In this section shall be inserted full discussion of results and finding, discussed more deeply in relation to the related studies already reviewed. Subheads may be determined and included in the discussions.

Conclusions (Center Heading 5)

The conclusions of the study must reflect the objectives of the research.

Recommendations (Center Heading 6)

All recommendations must appropriately correspond to the conclusions, and therefore the objectives of the study.

References (Center Heading 7)

Follow the APA Style Guide.

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The paper should be 15-25 pages long (including tables, figures, and references) and prepared preferably in Microsoft Word format. The author(s) should provide a title, the name(s) of the author(s), position(s), institutional affiliation(s), institutional address(es), email address(es) and key words (no more than five). You may make use of the template for preparing your paper: Journal Article Template (Qualitatively-Oriented); Journal Article Template (Quantitatively-Oriented). Detailed guidelines are as follows:

1. **Font type**
   The whole text should be in Arial.

2. **Margins**
   The paper should be A4 size (21 x 29.7 cm). All margins (top, bottom, left, and right) should be 1 inch.

3. **Line Spacing**
   The whole text should be single-spaced.

4. **Title**
   The title of the paper should be 14-point, bold, in capital and lower case letters, and centered.

5. **Author Information**
   Use 12-point and centered for the author name(s). The Western naming convention, with given names preceding surnames, should be used.

   The author name(s) should appear below the title, with one blank line after the title.

   Use 10-point for author(s)' position(s), institutional affiliation(s), country, and email address(es).

   The author(s)' position(s), institutional affiliation(s), institutional address(es), and email address(es) should appear below the author name(s), with one blank line after the name(s).

6. **Headings**
   - Heading font (with the exception of the paper title and the abstract) should be 14-point Arial and in bold.
   - Headings should be centered and in capital and lower case letters [i.e. nouns, verbs, and all other words (except articles, prepositions, and conjunctions) should be set with an initial capital].
   - There should be two blank lines before each heading and one blank line after it.

7. **Subthemes**
   - Subtheme(s) should be 14-point Arial, in bold capital and lower case letters, and flushed left.
   - There should be one blank line before and after each subtheme.

8. **Abstract**
   - The abstract heading should be 14-point Arial, bold, centered.
   - The abstract should be in 150-250 words.
   - The main text of the abstract should be 12-point Arial, italicized.
   - Alignment of the main text of the abstract should be justified, no indent.

9. **Key Words**
   - Include at most five keywords.
   - Use 12-point Arial. The keywords should appear below the abstract, with one blank line after the abstract.

10. **Main Text**
    - In general, paragraphs should be separated by a single space.
    - All paragraphs must be in block format.
    - Text font should be 14-point Arial, single-spacing. Italic type may be used to emphasize words in running text. Bold type and underlining should be avoided.
    - The first line of each paragraph should not be indented.

11. **Tables and Figures**
    - Tables and figures should be numbered and have captions which appear above them.
    - Graphics and pictures should not exceed the given page margins.
    - Captions should be 14-point centered.
    - The tables and figures of the paper should follow the APA citation style.
    - There should be no space between the caption and the table/figure.

12. **Footnotes**
    - Footnotes may be used only sparingly. A superscript numeral to refer to a footnote should be used in the text either directly after the word to be discussed or – in relation to a phrase or a sentence – following the punctuation mark (comma, semicolon, or period)
    - Footnotes should appear at the bottom of the page within the normal text area, with a line about 5 cm long immediately above them.
    - Footnotes should be 10-point and aligned left.

13. **References**
    - The author-date method in-text citation should be used. Following the APA format, the author's last name and the year of publication for the source should appear in the text.

    - All references that are cited in the text must be given in the reference list. The references must be in APA format and arranged alphabetically at the end of the paper.

Sample:

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Surname, A. A. (year). *Title of book.* Publisher location: Publisher Name.

Surname, A. A., Surname, B. B., & Surname, C. C. (2000). Title of article. *Title of periodical, volume number*(issue number). Retrieved from URL/web address.

Surname, A.A. (Year, Month). *Title of paper.* Paper presented at name of conference, city, country.

14. **Length**

The paper should be 3,000-7,000 words including tables, figures, and references.

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1. Abstract
2. Objectives
3. Conceptual/Theoretical Framework
4. Methodology
5. Results and Discussions
6. Conclusions and Recommendations
7. References

Go to: Quantitatively-Oriented Journal Article Template (page 67)

A publishable qualitatively-oriented paper should contain the following:

1. Abstract
2. Objectives of the Study
3. Relevant Studies or Review of Related Studies
4. Discussions
5. Conclusions
6. Recommendations
7. References

Go to: Qualitatively-Oriented Journal Article Template (page 69)

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