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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.

Board of Directors and Editorial Staff

Editorial
Volume 6, Issue No. 1

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. 5, No. 2 (December 2019) has just been completed and has been uploaded in the website.

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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Analyzing the Role of an Online System in Reducing Learner's Transactional Time in an Open and Distance e-Learning (ODeL) Environment: A Landscape Connectivity Perspective

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Abstract

Geographical distance between the learners and the institution characterizes distance education (DE) mode of learning. Transactional time increases with distance. The rapid advances in Internet technology help reduce transactional time by allowing the development of online systems. Online systems such as the online request for document system, or ORDS helps facilitate students' requests for and receipts of their academic records. However, there is a paucity of information on how such systems facilitate students' requests and how students respond to the availability of such online systems. This information is vital in developing student support for DE learners because they are faced with multi-tasks, and time is an important element for their success. Using the landscape connectivity theory, this study was conceptualized to (a) evaluate whether ORDS reduces the transactional time of students in requesting and receiving documents, and (b) analyze students' satisfaction level of using the system in terms of three usability criteria, namely, usefulness, ease of use, and efficiency. Data were collected through an online survey and retrieval of artifacts such as logbooks, emails, and reports. Results indicate that transactional time has been reduced from 12 days with a manual request system to 3.35 days with the online system. All criteria of usability received a satisfactory to very satisfactory evaluation from respondents with usefulness receiving the highest score among the three criteria. Results implied that online systems could enhance student connectivity with DE-providing institutions. Enhanced connectivity allows greater access to the institutions' resources and services that could support students' learning and persistence.

Keywords: *distance education, e-learning, online systems, landscape connectivity, transactional time, Internet*

Introduction

The geographical distance between learners and their institutions characterizes distance education. Several studies (e.g. Beldarrain, 2006; Zhang & Kenny, 2010) reported that geographic distance has expanded from adjacent towns to cities to remote countries and continents. The physical isolation is critical for students' success in distance education. Croft, Dalton, and Grant (2010) reported that physical isolation is one of the barriers and challenges in distance education and has been observed as one factor that de-motivates learners. Demotivation may result from having a feeling of isolation from their mentors, other learners, and institution (Kok & Frown, n.d), and may result in student's decision to drop out of their program.

High dropout rates have a negative impact on the economics of the university (Angelino, Williams, & Natvig, 2007). Moody (2004, p. 205) in Angelino, Williams, and Natvig (2007) emphasized that the costs for development, delivery, and assessment as well as lost tuition revenue due to high attrition rates, result in wasted expenditures for the institution."

In addition, high rates of student drop out are viewed as education quality issues. According to Angelino, Williams, and Natvig (2007), DE institutions with a high rate of drop out or attrition are perceived to have a quality problem.

Therefore, determining what services and delivery methods the institutions will need to provide to ensure successful completion of students in their program is critical (Nash, 2005 in Angelino, Williams, & Natvig, 2007).

Several institutions develop and establish online systems to mitigate the impacts of geographical separation on students' decision to stop studying. Other universities such as the University of the Philippines Open University (UPOU) in the Philippines have shifted to a purely online course delivery model to maximize the rapid advances in information and communication technologies such as the web in addressing the physical isolation. Aside from establishing an online learning management system, UPOU has also embarked on putting all its academic processes including enrollment, admission, and request for documents (e.g. student's transcript of records, a true copy of grades, certificate of completion, etc.) on the cloud.

In 2013, the Office of the University Registrar (OUR) of UPOU developed the Online Request for Document System (ORDS). ORDS which is lodged in the Online Student Portal (OSP) is one of the student support services being offered by OUR to UPOU students living within and outside the Philippines. Its primary aim is to reduce the students' time in transacting with the University. Its development is founded on the idea that online learners are individuals with multi-tasks such as occupational, family, and social commitments where time is of primary consideration when they transact with the University (Hanson, et al., 1997 in Dabbagh, 2007). The system is made available 24/7 to students to provide greater accessibility, flexibility, and convenience in terms of time and cost. As Bataineh (2001) in Fuller and McBride (2001) has indicated, online systems provide students cost-saving in forms of evaded transportation cost and lost income when students leave from their work to be able to file their requests for documents in the university.

Though several studies (e.g. Saroiu, et al. 2002; Hill, 2012) were conducted on how online content delivery mode influences learners' learning process, there is a paucity of information on whether online systems have actually reduced students' transactional time. In addition, there seems to be a lack of information on students' responses to the availability of these systems for their use. This information is vital in improving online systems to maximize their utility as a tool for student support.

Objectives

In general, the study was conducted to (a) determine whether the transactional time of students is reduced with ORDS; and (b) analyze the students' level of satisfaction in using the system.

Specifically, the study was conducted to (a) profile students who used ORDS; (b) compare the transactional time and the number of requests being served and completed between the manual system of requesting academic documents and ORDS; (c) determine the students' response using the three usability criteria (i.e. usefulness, ease of use, and efficiency); (d) analyze gender-sensitive implications of system's utility, and (e) provide recommendations for system improvement and future research directions.

Conceptual Framework

The study was guided by the assumptions and concepts of landscape connectivity. Landscape connectivity deals mainly with the interactions between the organisms and landscape property. Living organisms exhibit specific movement in certain landscape. Crist et al. (1992) cited several studies that indicate a relationship between animal movement patterns and some ecological functions such as foraging (Smith, 1974; Bond, 1980; Pyke, 1984); space use in home ranges (Siniff and Jessen, 1969; Swihart, Slade, and Bergstrom, 1988); population distribution over space (Levin, 1974); dispersion (Okubo, 1980; Stamps, Buechner, and Krishnan, 1987); and interactions (Murdie and Hassell, 1973; Banks, Kareiva, and Murphy, 1987). Animal movement is directed by certain factors such as availability of food, vegetation, social factors, or changes in habitat landscapes (Crist et al., 1992). The differences in physiology, vagility, size, and life history characteristics have also been observed to influence movement patterns (Greenwood and Swingland, 1984; Loehle, 1990; Turchin, 1991 in Crist et al., 1992). These factors are important in their survival, physiology, and reproduction.

The main point of landscape connectivity is the ability of the landscape to provide mobility to organisms to evade predation, seek for food, and/or reduced edge effect, all of which could significantly affect their survival and reproduction in the landscape. Highly connected landscape allows ease of flow of materials and/or movement of organisms. On the other hand, fragmented or patchy landscape can cause difficulty of movement and therefore reduces connectivity of organisms to other sources of food or spaces for their physiologic processes (Taylor, Fahrig & With, 2006). The difficulty arises when their habitats become highly separated and disconnected. Consequently, organisms would have trouble accessing the various resources for their survival and existence. Landscape managers should establish ecological corridors to link these highly fragmented habitats if they wish to enhance these organisms' survival.

Such condition does exist in a distance education environment where all elements are highly separated both in structure and function. Considering distance education environment as a highly fragmented landscape, learners are physically and functionally separated from their learning institution, which provide services that could help them persist in their programs. This separation makes it difficult for them to connect with the institution and access its different resources and student support services. If unmanaged, such separation could lead to isolation, which is a major barrier of learners' success in distance education (Akuamoah-Boateng & Boadu, 2013).

By virtue of the nature of DE learners (e.g. working, multi-tasked, separated physically), their navigational behavior in a virtual landscape can be construed as a movement directed towards achieving certain goals. Though there is a significant difference between students in a virtual environment and organisms in the real environment, they have a common goal, i.e. to be successful in their transactions given a set of environmental conditions. To do this, both organisms and e-learners should devise strategies that can help them achieve this goal. However, the landscape (for the case of the real organisms) or the institution (for e-learners) should provide the facility for the successful transaction. In any condition, time is an important element for both organisms and e-learners. For e-learners, it is crucial since they are faced with multi-tasks that they need to accomplish (Dabbagh, 2007).

Using landscape connectivity as a framework of analysis, the study evaluated how ORDS serves as a system that reduces the disconnect between students and a DE-providing institution in

the Philippines. It is assumed that the reduced transaction time, i.e. the time spent between requesting a document and receiving it, reflects increased connectivity between the learners and the institution. The study assumes that ORDS, being an online system, offers a ubiquitous pathway that connects the learners and the institution so that the former can easily access the services and resources of the latter. The evaluation of such system, however, should emanate from the users themselves, in this case, the learners. But given the diversity of perspectives, experiences, and prior knowledge of e-learners, the study assumes that there might be user-sensitive and user-specific behavior and implications of the evaluation. They should be analyzed and carefully considered in the improvement and implementation of the system.

Methodology

Study Site and the Online System

The study was conducted in the University of the Philippines Open University (UPOU). UPOU is the fifth constituent university of the University of the Philippines System. Established on 23 February 1995, it is mandated to provide wider access to quality higher education. UPOU offers one pre-baccalaureate program, two baccalaureate programs, ten post-baccalaureate diploma programs, 13 master's program, two doctoral program, and ten non-formal courses by distance education. During the first term of the Academic Year 2013-2014, UPOU has a total enrollment of 2,890. Most of the students are enrolled in the graduate programs (74%) while the rest are enrolled in undergraduate (17%) and certification programs (8%). Geographically, about 20% of the enrolled students are based outside the country while 34% is residing in Metro Manila. The remaining 46% is living in the different provinces of the country.

In recent years, UPOU functions under the ODeL framework of distance education where most of its academic and administrative processes and services are done through the Internet. In support of this thrust, the Office of the University Registrar conceptualized and later developed an online Academic Information Management System (AIMS), which serves as a one-stop site for the needs of all the University's constituents. AIMS consists of five portals (Figure 1), each of which serves different users. Among these portals, the Online Student Portal (OSP) is the AIMS component that serves the students. OSP was rolled out in 2012 and has undergone several revisions to allow more self-service transactions. It is designed to become a one-stop-shop online system that provides customized services to the students.

The online request for documents systems (ORDS) is part of the student portal component of AIMS (Figure 2). As a learner support system, ORDS enables the students to request documents such as transcript of records, certificates, true copy of grades, and the like regardless of their geographic location and time zone. Students just need to have a strong Internet connection to be able to use the system. Processing of the requests, however, is dependent on the type of document requested and availability of the needed information. Likewise, responses to requests depend on the kind of document requested. Original and official copy of transcript of records would be sent through a courier though the request is done through ORDS.

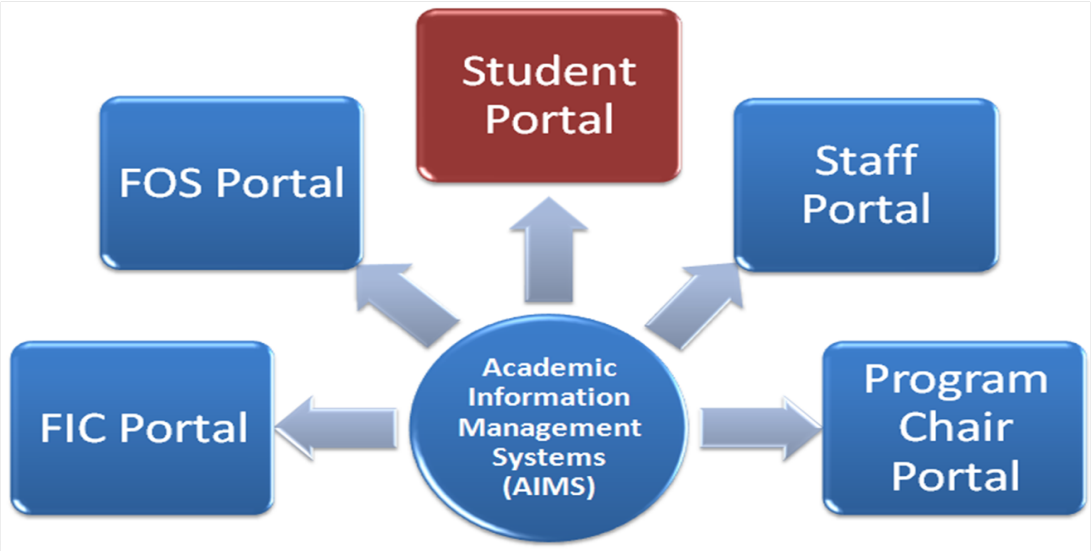

Figure 1. Academic Information Management System Structure

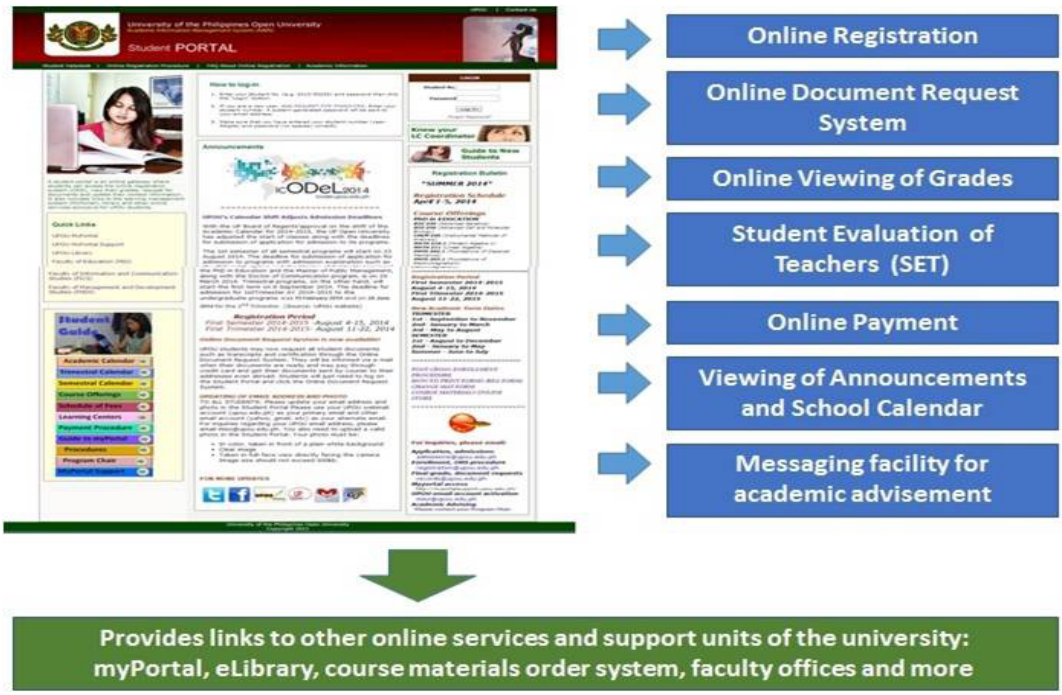

Figure 2. Support services in the UPOU Online Student Portal

Data Collection

An online survey was conducted from January 28, 2016, to July 2, 2016, involving the continuing undergraduate and graduate students (n = 190) who experienced both the manual and ORDS. The survey collected information on students' satisfaction on ORDS based on the following criteria: usefulness, efficiency, and ease of use. It also collected information on the student's profile, the frequency of use, personal views, and suggestions for improvement of the system. A Likert-scale

instrument with a 5-item scale (i.e. 5 is highest while 1 is lowest) was used. It consists of 14 items distributed as follows: eight questions about the learner's profile, there were three items that required the learners to rate their satisfaction on the use of the system, and there were three items about their personal views and suggestions for the future improvement of the system.

An invitation and link to the online survey were sent to the students through an email. An announcement about the ongoing survey was also posted on the student portal. The survey was purposive and was intended to students who experienced both online and manual request systems were considered as the population. Consent of the respondents was integrated into the online survey and served as the first page of the instrument. It had a "yes/no" button to which the respondent indicated his or her participation in the survey. To maintain the confidentiality of responses, results were reported as aggregate values.

Computation of the Transaction Time

The reduction in transaction time between the manual and online systems required retrieval of data in logbooks and database of the online system. Transaction time was computed as the number of days consumed in waiting the requested document. The computed transaction time was compared between the manual and online request for documents system. The reduction of the transaction time was computed as the difference between the transaction time of the manual and the transaction time of the online system.

Under the manual system, the transaction time includes the number of days consumed in transmitting the application form from the student to the learning center or courier and from the learning center or courier to OUR, processing of the requested documents, and transmitting of the requested documents from the OUR to the student. Under the manual system, students would fill out a request form and sends it to OUR either through their learning center or a courier. The person-in-charge at the OUR processes the request upon receipt of the form. S/he releases the requested documents to the student upon receipt of his/her proof of payment for the processing fees.
In addition, the number of requests served and completed per document type was also determined and compared for both systems.

The process is different under the online system. Transaction time in an online system includes the time of sending the request via the system and the time the student received the requested document.

Data Analysis

Data were analyzed quantitatively and qualitatively. Quantitative analysis included computation for descriptive statistics, e.g. difference, means, and percentages. Meanwhile, important learners' remarks on the usefulness, efficiency, and ease of use of the system were considered in the qualitative analysis.

Results and Discussions

Respondents' Profile

Most of the respondents of the study were Filipinos (n = 188) living in the Philippines (n = 159); females (n = 127), and were in the working-age, i.e. 21-60 years old (n = 186) (Table 1). McLean and Morrison (2000) observed a similar distribution of respondents in their study on socio-demographic characteristics of learners and participation in computer conf**erencing.**

Table 1. Distribution of respondents by socio-demographic variables (n = 190)

Socio-demographic Variables	Frequency	Percentage
Gender		
Male	63	33.16%
Female	127	66.84%
Age		
Below 20	3	1.58%
21-30	68	35.79%
31-40	78	41.05%
41-50	36	18.95%
51-60	4	2.11%
Above 60	1	0.53%
Nationality		
Filipino	188	98.95%
Not indicated	1	0.53%
Pakistan	1	0.53%
Current Residence/ Work Location		
Philippine-based	159	83.68%
Offshore based (abroad)	31	16.32%

Transaction Time: Manual System vs. Online System

On average, the transaction time under the manual system was computed to be 14 days. This is significantly reduced to 4 days under the online system, i.e. ORDS. The reduction could be due to the reduced number of days consumed in transmitting the request form and releasing the documents to the students. Under the online system, the request is directly transmitted to the Office of the University Registrar (OUR), and therefore, the OUR could immediately process the request. Unlike in the manual system, the request will still go through several channels before it can reach the OUR. In addition, since the system automatically computes for the processing fees, learners would no longer wait for an email from the person-in-charge in OUR informing them of how much they should pay for the requested document. They have also an option to pay online, which does not exist under the manual system. Under the latter, learners must queue in a bank to pay the fees before their request could be processed.

Learners could use the saved time in learning. With multiple tasks on hand, a DE learner needs tomanage their time in learning. Thorpe (2006) has mentioned that time management is necessary for being successful in DE. Although DE has reduced the time barriers against learning as learners can now study at their own pace, it has moved time management issues back to learners (Thorpe, 2006). Therefore, reducing the time spent on non-academic processes in the university will really help learners cope with their time-demanding tasks.

In addition, the result indicates that ORDS was able to reduce the functional gap between the learners and the institution. The system appeared to address some of the learners' concerns related to requesting a document. For instance, learners indicated that ORDS has addressed the issues of cost of time, risk, and transportation cost associated with requesting a single document. These are indicated in the following responses:

> "I need not travel for 16 hours (going & back) with all the attached risks and expenses just to request for the document." [Student 1]

> "Your system is very friendly to us offshore who have limited resources and manpower to help us run errands in the Philippines." [Student 2]

As reflected in these responses, distantly located learners such as overseas students can now request a document through the ORDS without incurring additional costs. Though Fahrig (2003) had indicated a greater dispersal cost in a highly fragmented landscape, ORDS allowed learners to save their resources as they need not travel long distances to connect with the University and request a document.

Number of Requests Served and Completed: Manual System vs. Online System

More requests for student records were being served and completed through the online system than the manual system. The computation of the mean number of requests for the online system indicated a 15% increase within three years. On the other hand, the Office of the University Registrar (OUR) was able to process a monthly average of 149 requests; this is 36% higher than the number of requests processed through the manual system.

The online platform has provided students a convenient way of requesting a document. Such convenience has encouraged more students to transact with the University for their needed documents. The online system allowed the University to provide a timely response to their requests. As Oxera (2015) had indicated, online systems provide greater convenience to users while allowing institutions to provide efficient services to customers. This is reflected in the following responses of students:

> "Ang galing! I requested my transcript by email. The response was very timely, courteous, and relevant." [Student 3]

> "Faster processing; Am very pleased with the ORDS. Keep it up!!" [Student 4]

The greater number of requests being processed and served through the online system indicated a greater connection between the students and the University. Specifically, the online system allowed students to do efficiently their non-academic activities in the University despite the

physical separation. While structural connectivity is instrumental in maintaining biodiversity in a natural landscape (Gelling, Macdonald, & Mathew, 2007), ORDS appears to be important in maintaining University's connection even with its former students as indicated in the following remarks:

> "I really appreciate the kind of online service UPOU implemented. Former students like me found that we are still given importance. Thank you very much." [Former Student 1]

ORDS Usability

Figure 3 summarized the computed mean scores of all usability criteria investigated in the study. Generally, students have found ORDS to be useful, efficient, and easy to use. As shown in Figure 3, all the items received a computed mean score of greater than four, indicating students' favorable evaluation of the system. As implied in the students' remarks mentioned above, ORDS has become significantly useful for geographically distant students, e.g. the students in offshore who lack resources and those with limited manpower to process their requests via the manual system. It has allowed them to process their request efficiently and timely.

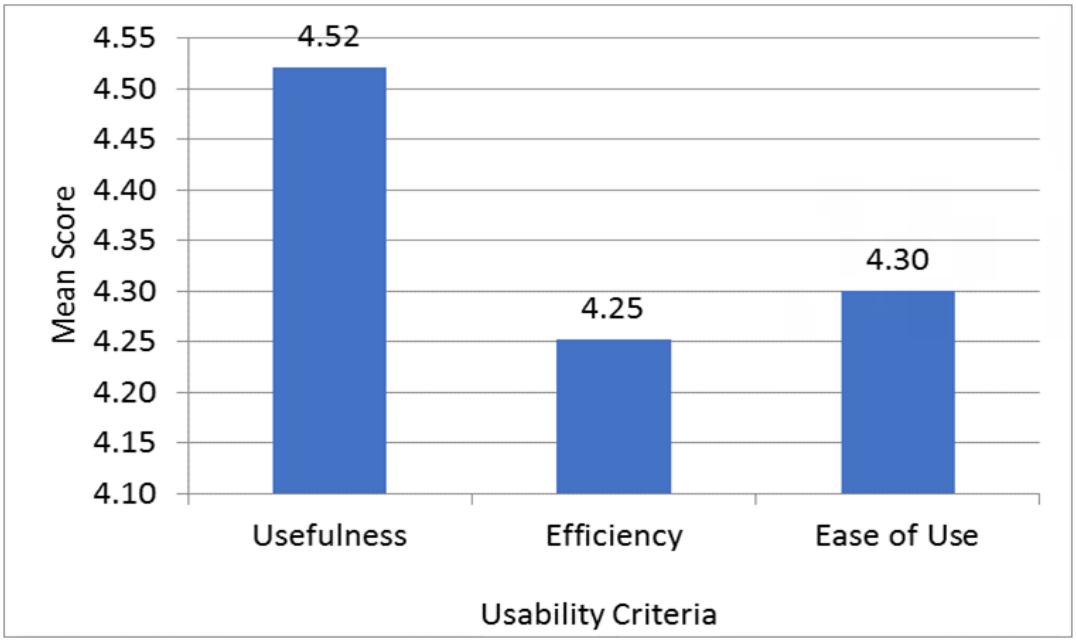

Figure 3. Mean scores of the usability criteria used in evaluating ORDS (where 1 is the lowest score, and 5 is the highest score; n = 190)

The students' favorable evaluation of the ORDS could be attributed to the time and cost savings they experienced in using the system for requesting a document. As in highly connected landscapes where organisms save energy and resources in food-seeking activities (Baguette et al., 2012), students through the ORDS were able to save their time and money, and thereby, minimizing the additional cost of their education (Nguyen, 2015). As [Student 1] has indicated, the system had saved him from spending about 16 hours of travel and the expenses associated with it. These savings are significant for students who are personally paying their education. The evaded costs of transactions could enhance their financial capability for their next term enrollment just as the energy saved by organisms in a real highly connected landscape can be used to strengthen their feeding and reproductive capacities (Tischendorf & Fahrig, 2000).

Also, students found the system to be more efficient and convenient than the manual system, as indicated in the following comments:

> "Very convenient! Ang efficient! Impressive! Kudos sa inyong lahat!" [Student 5]

> "Faster processing; Am very pleased with the ORDS. Keep it up!!" [Student 4]

> "I never had a hard time requesting the documents. I was able to receive the documents on time, thus the current system is sufficient and efficient enough." [Student 6]

These findings indicate that ORDS could be an important channel that supports students in their non-academic activities in the University despite the distance. Being highly fragmented, DE landscape requires a virtual channel that enhances students' connectivity with the University. While Williams and Snyder (2005) emphasized the importance of corridors in reversing the impacts of fragmentation on organisms' movement, students' remarks highlight the role of ORDS in reducing the functional gaps created by the physical separation of students from the University. It is recommended that the University should develop further this system to cater to more needs of the students.

Future Improvements

There are still some students' needs that are not served by the online system. According to Raita and Oulasvirta (2011), these unmet needs could have affected students' evaluation of the system. As revealed by students' responses in the survey, these needs include: (a) a payment option for debit card; (b) records of payment; (c) express online request; and (d) real-time interaction. These needs are revealed in the following responses of students in the survey:

> "Please add other ways in paying the requested documents. If it is possible, we can pay through electronic debit cards not just credit card alone. Also, it is very impractical to pay 20.00 pesos to a PNB branch which always has a long line." [Student 7]

> "An Express Document Processing and Delivery feature may be added (1-2 days). This will be beneficial for those who really need their documents as soon as possible." [Student 8]

> "Real-time inquiry such as live chat queuing facilities would speed up transaction. Paypal, debit card and the like shall also be included in the payment facilities to accommodate those students who don't have credit cards." [Student 9]

> "May I also suggest that when official receipts have been submitted, it must also appear there as accessible. Though there is a sign that it was submitted when I click "submit", it could have been better if I could see it." [Student 10]

The list indicates the diverse needs and interests of students, which could possibly be addressed with the future improvement of the system. If these improvements will be done, the system could further enhance the functional connectivity of students with the University that is impeded with their physical separation. The remarks also revealed students' desired high connectivity with the University to avoid the hassles of the manual processes and to have immediate access to information (Baker, et al., 2016). As [Student 7] and [Student 9] had emphasized, they don't want

to experience the hassle of queueing in a bank just to pay a fee of PhP20. In addition, adding a real-time inquiry functionality to the system could address the socio-emotional as well as information immediacy needs of the students. According to Baker et al. (2016), these needs are typical for a self-paced learning environment. The real-time interactions could foster a sense of connectivity among the students, and in the process, could improve their sense of community. In fact, Rovai (2002) reported that as the interactions become more personal such sense of community becomes stronger and the isolation effect becomes lesser and lesser.

Conclusions and Recommendations

However, future improvements of the system should be done to address the diverse needs of the students. As meeting these needs enhances their sense of community, it is recommended that the role of ORDS in motivating students' persistence should be investigated. Motivation is an important factor in students' performance, persistence, and engagement in an online education. A study that answers questions on how and why non-academic online systems such as ORDS have motivated students could provide important information necessary for the development of a strong student support system for online learning.

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Developing and Evaluating a Website as an OER for Faculty Development

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Abstract

Faculty development (FD) is an important activity that helps faculty members of an academic institution to provide quality education to students while fulfilling the institution's missions and improving faculty members' capacity to teach. With sustainability and scalability in mind, several institutions often use web media to distribute training materials for FD. This paper describes the design and development of a web-based FD program at the International Christian University (ICU), Japan during the fall of 2017. It also presents a thematic analysis of the initial feedback from the first batch of users and external reviewers. Furthermore, it reports a rough measure of the usability and usefulness of the website as an Open Educational Resource (OER).

Keywords: *faculty development, liberal arts education, online materials, open educational resources, web media*

Introduction

Faculty Development

Faculty development (FD), which started in the United States, was brought to Japan in the late 1990s and was officially promoted by the Japanese government when the Standards for Establishment of Universities highlighted the importance of FD in 2007 (Yuan & Shimizu, 2007). Many studies have revealed positive effects of FD programs on students' satisfaction (Shea, Fredericksen, Pickett, & Pelz, 2003), students' achievement (Naeem, van der Vleuten, & Alfaris, 2012), and faculty members' wellbeing (Jung, Nishimura, & Sasao, 2016).

Baker, Lunsford, and Pifer (2015) stated that faculty members in liberal arts colleges need specialized FD training that reflects the organizational missions and their own needs. Especially in small liberal arts colleges where undergraduate teaching is considered most important, it is imperative to offer orientation programs for new faculty members who were trained mainly in large research universities. As such, they often face difficulties in understanding teaching for liberal arts education; this is particularly pertinent in the East Asian context, where many faculty members are research-oriented especially in East Asia (Jung, et al., 2016).

Despite the increased needs for FD programs in Japan, especially in the areas of innovative teaching methods and Information and Communication Technology (ICT) utilization, the execution rate of implementation of such FD programs in Japan has not been improved (Taguchi, Nishimori, Shinto, Nakamura, & Nakahara, 2006). It was also the case at the International Christian University (ICU).

Program Overview

To address the urgent need for new faculty members' development in ICU, a project aimed to design, implement, and evaluate a new FD program for liberal arts education was planned. The new FD program had the following aims for the participants: (1) develop a better understanding of the core values of liberal arts education in relation to their respective subject areas; (2) apply a systematic or systemic instructional design model in developing a syllabus, which integrates innovative teaching methods and technologies for liberal arts education; and, (3) clarify and balance their professional responsibilities (teaching, research, and social and administrative services) and personal well-being. In developing the new FD program, the project team has adopted the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model, a macro instructional design model. In the first year of the project (July 1, 2016 – June 30, 2017), the team carried out Analysis, Design, and Development (ADD) activities, and in the second year (July 1, 2017 – June 30, 2018), the team carried out activities related to Implementation and Evaluation.

To achieve these objectives, 20 modules were developed and included in the new FD program. The modules were created based on the results of needs assessment conducted with the faculty members of the ICU community. The modules were grouped into three: R-Modules, I-Modules, and T-Modules. R-Modules (Reception Modules) comprise topics on ICU's administrative offices and its functions. I-Modules (Information Modules) comprise of other offices and their roles that cover topics like promotion and tenure, teaching effectiveness, faculty support, student counselling, human rights, and other ICU rules and regulations. T-Modules (Teaching Modules) comprise topics on ICU's liberal arts education values, history, and mission, as well as various teaching strategies. These modules also include communication in English, integration of innovative methods and technologies such as Moodle, Google tools, active learning, open educational resources (OER), and flipped learning.

Delivery Modes

To ensure access to various FD resources at a time and place convenient for them, three delivery modes were employed: 1) blended (face-to-face [or f2f] sessions supported by Moodle); 2) online (new faculty website providing reading and video resources); and, 3) mobile (mobile app providing text, audio, video, and website materials).

In the blended mode, 20 f2f sessions were offered in 10 weeks. The Moodle was used to post resources, send facilitator messages and reminders, and upload participants' reflection notes. In the online mode, the new faculty website was used to access resources for personal study or pre-session viewing and open access to the public through a Creative Commons license.

Ideological and Theoretical Bases

Various concepts and best practice ideologies, which were well supported by literature, were applied during the implementation of the program. The following provide the bases of the program's approach.

Open Educational Materials

Since the existence of open educational resources (OER), educators and even non-educators have been given other options to use in their classes or for personal use. Various types of OER exist; OER can be: full courses, course materials, modules, learning objects, textbooks, streamed

videos, software, tests, assignments, case studies, e-portfolio, training materials, practice items, etc. (Jung & Hong, 2016). Moreover, OER can be categorized based on the media and/or technology being used. Although initially intended for support at formal education, OERs' use has also extended to informal and non-formal education.

Program Duration Ideologies

Several ideologies were referenced in the design, planning, and implementation of the project. Community-building is important to develop a personal sense of connection and commitment among the people in the environment (Unger & Wandesman, 1985). It is also beneficial to the organizer that longer-term programs enable the organizer to carry out observation, feedback, follow-up support, and evaluation on the effectiveness of the program, as suggested by Garrison and Vaughan (2008).

Blended Learning and Flipped Learning

The program is carried out in blended learning mode (i.e., flipped learning), as this approach can integrate both online and f2f sessions to increase diversification in offering formats, flexibility, and accessibility (Diaz, Garrett, Kinley, Moore, Schwartz, & Kohrman, 2009, Zainuddin & Perera, 2017). The new faculty members could adopt a self-study approach by reviewing the OER content on the website that allows them to access via a personal computer or mobile device. This is a guided independent learning approach where the participants are also an active contributor, constructing knowledge on their own and with the learning environment. According to the socio-constructivist theory of learning, the facilitator does not lecture at them but assumes the role of guiding the new faculty via the f2f session through group discussions and collaborative activities.

Also, there are immense benefits of previewing the content before attending the f2f session, as faculty members could grasp the idea of the topic for deeper understanding and develop a greater sense of autonomy through self-paced learning (Zainuddin & Perera, 2017, Choi & Lee, 2015). Furthermore, a flipped learning strategy could develop a higher sense of preparedness (Zainuddin & Perera, 2017), where faculty members are encouraged to bring their questions and participate in discussions or exchange ideas effectively during the f2f session (McLaughlin, White, Khanova, & Yuriev, 2016). Past literature shows that flipped learning can accommodate various instructional strategies, formats, and modalities in online content delivery. Video lectures, e-reading materials, and screencasts were among the instructional strategies employed by instructors in the online mode (Strayer, 2002). Similarly, for in-class activities, instructors can adopt various active learning strategies, such as small group discussion, problem-based learning, peer tutoring, or case studies. Given the positive aspects of this approach, the FD program is designed in the flipped learning format in its implementation.

A case study of an FD program reported by Paskevicius & Bortolin (2016) was designed and implemented at Vancouver Island University. It also utilizes blended learning of online and f2f methods. The online platform used was Desire2learn, a learning management system to coordinate online reading materials, activities, or discussions. The online activities were complementing the f2f session to prompt discussion and collaborative activities. The FD program is designed on the concept of building a community of practice (CoP) in fostering idea-sharing, knowledge, and expertise among faculty members. Feedback from the survey revealed that blended learning is suitable to support longer-term FD programs with sustained online activities and regular f2f meetings. Faculty members also highlighted that through this program, they

forged interdisciplinary relations across different fields of expertise while engaging in meaningful conversations.

Methodology

Choice of Technologies

The materials that were used for the FD program were decided to be created in electronic format. It was decided by the team that a website will mainly contain all of the reading and multimedia materials that will be used in most of the T-Modules, which were meant to be implemented as flipped learning sessions, as well as the I-Modules and R-modules, which were meant to be implemented as regular blended learning sessions. For simplicity and sustainability in terms of maintenance, the new version of Google Sites was chosen as the platform to hold and organize all of the online materials. A mobile app for Android Smartphones and iPhones was also developed. Furthermore, eBooks produced in ePUB format were also linked within the apps as well as the website. This paper describes the activities involved in the iterative development and evaluation of the website.

Materials Development

The modules were assigned to various experts both within ICU and in other institutions. The modules were reviewed by the team before being submitted for webpage conversion. Video and audio materials were also developed to give other modalities of learning. In total, it took almost six months to provide the complete materials for the website. Many of the materials were also converted into eBooks using an ePub management tool called Calibre.

Website Organization and Initial Testing

The website's organizational structure underwent several iterations through rapid prototyping since May 2017. For each of the five iterations, the members of the team including some external reviewers were consulted on the navigational ease, consistency, and format of the materials. The first two iterations involved prototypes while the third involved a pre-beta version and a user-acceptance test. Lastly, the last two iterations involved a closed beta and an open beta version. Figure 1 illustrates the Gantt chart used for the development of the website. A project management software called Basecamp was used to coordinate the various tasks involved among the members of the team and to make sure that the targets are achieved.

Prototype 1 and 2 Proposed Schedule

Task Name	Start	End	Duration (days)
Layout Surveying	04/04/2017	12/04/2017	8
Google Site Setup	08/04/2017	16/04/2017	8
Materials Encoding	16/04/2017	23/04/2017	7
P1 Development	16/04/2017	23/04/2017	7
QA Test for P1	23/04/2017	30/04/2017	7
P1 Presentation	01/05/2017	01/05/2017	0
FB Analytsis P1	01/05/2017	07/05/2017	6
P2 Development	07/05/2017	13/05/2017	6
QA Test for P2	14/05/2017	20/05/2017	6
P2 Presentation	22/05/2017	22/05/2017	0
UAT	22/05/2017	28/05/2017	6
Website Beta Launch	28/05/2017	03/06/2017	6

Legend:
P1 Prototype 1
QA Quality Assurance
FB Feedback
UAT User Acceptance Testing

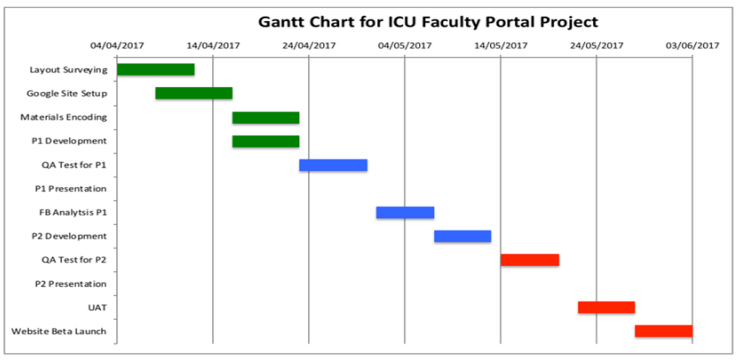

Figure 1. Gantt Chart for the New Faculty Website Development

The team also tested all of the links to make sure that everything is working before being initially used in the sessions. Figure 2 shows the front page containing the main links and sections. The articles on the website are mainly divided into Teaching Support, which contains most of the T-Module materials, Research Support, and Administrative Support. A special link to Liberal Arts Education was also placed as it is an extremely important ideology that ICU wants teachers to imbibe in their role as a member of a Liberal Arts institution. All pages on the website contain the Creative Commons License information of CC-BY-NC 3.0, which means that users can freely create a modified version of the website and its OER materials provided that they provide due attribution to the creators. Furthermore, OER can only be redistributed for free.

Figure 2. Frontpage of the New Faculty Website

Usage and Evaluation

ICU's Center for Teaching and Learning (CTL) implemented the new FD program with five new faculty members in Autumn term 2017 and invited other instructors and faculty members who were interested to join some of the sessions. Inspired by the ideas given by Unger and Wandesman (1985) as well as Garrison and Vaughan (2008), the FD development program was implemented over duration of 10 weeks. The purpose of not having an instant single-day workshop session is to allow time for building a sense of community with facilitators and other faculty members. Besides, the duration of the program allows them to take sufficient time for adaptation and reflection.

The website was used by the new faculty members for studying the materials before going to the flipped T-Module sessions. In each session's reflection notes, each of the website materials used in the sessions was also evaluated by the participants. Additional comments on the website were obtained during the interview sessions that took place during the last day of the FD program. Guides for installing and using the mobile app and eBooks were also provided in the About Us and Useful Links sections.

Evaluation as an OER

A survey was also developed that included the System Usability Scale (SUS) by John Brooke (2013) and a primitive version of Perceived Ease of Use (PEU) and Perceived Usefulness (PU) questions from the Technology Acceptance Model (TAM) by Fred Davis (1989).

There were 10 SUS items, with 1 representing strong disagreement and 5 representing a strong agreement that was included in the survey. On the other hand, PEU and PU had six items each where participants had to express agreement or disagreement with a statement using a scale of 1 (strongly disagree) to 7 (strongly agree).

The survey containing the aforementioned scales was then distributed to faculty members of various educational institutions to get an idea of usability and perceived usefulness of the website materials as OER.

Results and Discussion

Initial Evaluation

Based on reviewing the reflection notes of the participants as well as the end-of-program interviews, several themes have emerged regarding the website materials. Firstly, the website materials were very informative and helpful to the new faculty members. Secondly, the website materials needed to be referenced more during the sessions especially those that are implemented in flipped learning mode. Thirdly, the website materials were easy to read and not too difficult to navigate. Fourthly, as a bilingual institution, the website needed to have a Japanese version. Furthermore, there was one participant who experienced difficulty in navigating some of the links. From this feedback, the team decided to redesign the website before the next implementation of the program.

Usability, Perceived Ease of Use, and Perceived Usefulness

The scores obtained would be considered inconclusive as a predictive measure since there were only 24 participants who responded to the survey at the time of this paper's writing. However, it is still worth noting that the average SUS score was 73, which is very high based on Brooke's stated global mean of 68. PU, on average, yielded 5.1 while PEU, on average yielded 5.33, which were both generally high. The standard deviation for PU and PEU was 1.1 and 1.21, respectively which meant that the scores did not deviate too much from the high mean.

The boxplot in Figure 3 shows that 50% of the respondents rated PEU between 4.5 and 6.25. The lowest score given was 3, but only 12.5 percent rated the website's PEU with a value lower than the middle value of 4.

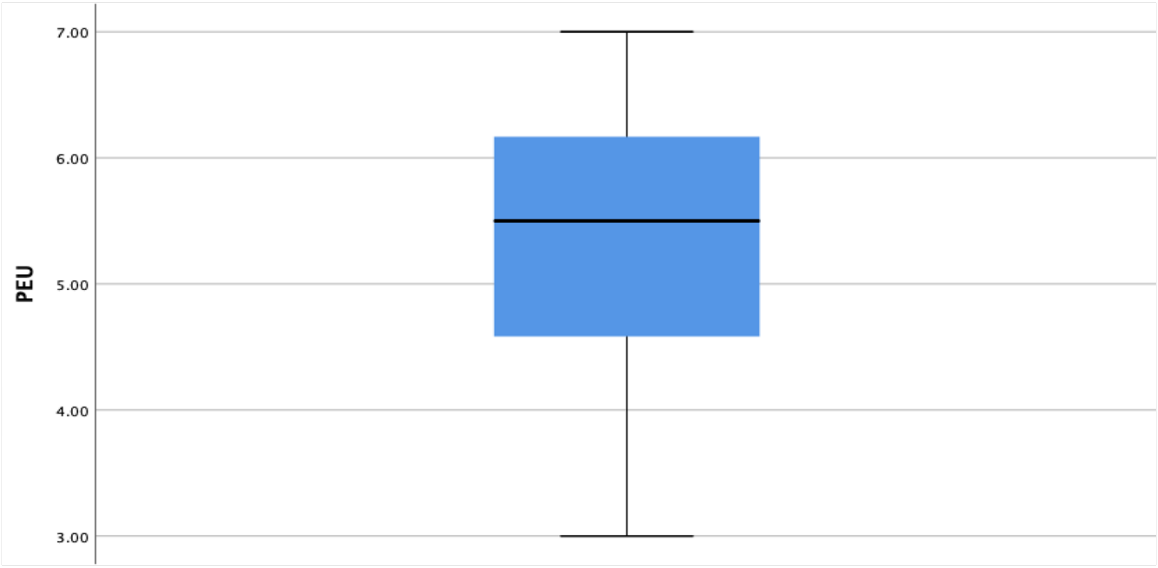

Figure 3. Boxplot of Perceived Ease of Use (PEU)

The boxplot in Figure 4 shows that 50% of the respondents rated the PU between 4 and 5.9. The lowest score given was 3.33, but only 16.7% rated the website's PU lower than the middle value of 4.

The scores were promising in terms of usability, perceived ease of use, and usability. According to Davis' model (1989), high PU and PEU levels could predict high usage among the target users.

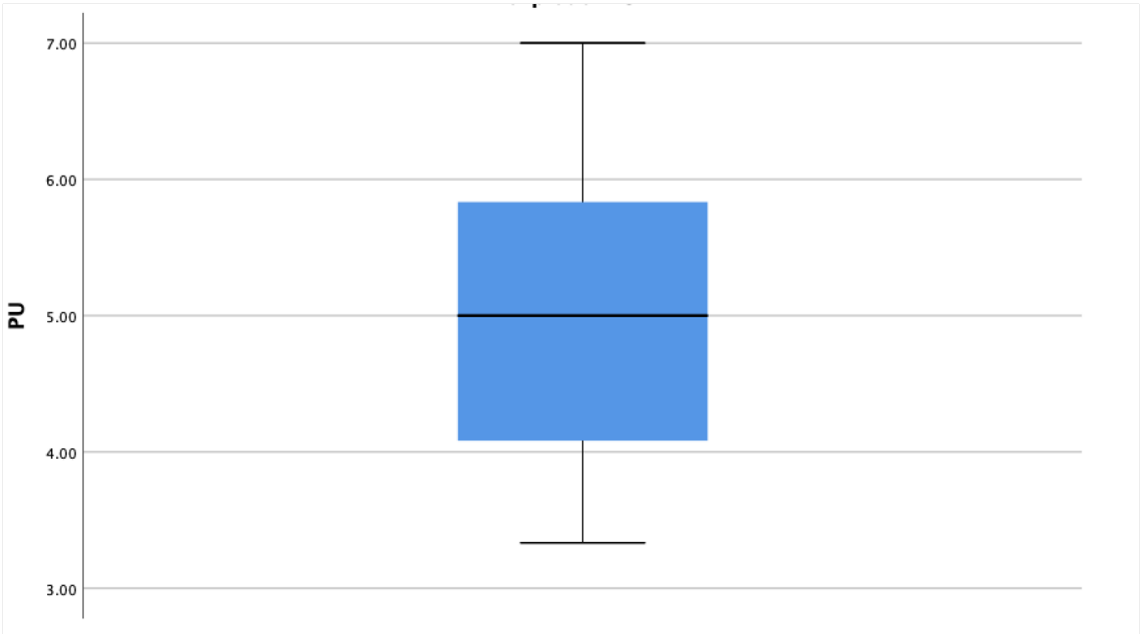

Figure 4. Boxplot of Perceived Usefulness (PU)

Conclusion and Suggestions for Future Research

Based on the initial evaluation of the website, it has proven to be useful and easy to use to new faculty members at the ICU and a potentially useful OER among faculty members of other universities. However, design and layout improvements were necessary to make the website more navigable. Furthermore, after the findings, a Japanese translation of the website was proposed and developed to reflect the bilingual nature of the university. A comparative analysis of the mobile app and the website is also planned to make more sense of the SUS, PUE, and PU scores. Moreover, it is imperative to improve the methods for evaluating perceived usefulness and ease of use of the system. A follow-up study that would look into PEU, PU, and SUS of faculty members of a single institution and their actual use through time would validate the underlying model used in this study. A tracking study is also proposed to see how the materials were used as OER in various institutions in Japan and other countries.

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Social Media as Communication and Learner Support Tool in Massive Open Online Courses (MOOCs)

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Abstract

The massive open online courses (MOOCs), with its characteristics of being massive, accessible everywhere online, open to everyone, and free of charge, play an important role in bridging the gap between the teacher and the learners, giving more flexibility, access and equity in a learning environment. Recognizing the potential that MOOCS has to offer to a wider audience and trusting in its many years of experience in open and distance education, UPOU embarked in a learning innovation of designing and offering free online courses through the UPOU massive open online courses (MOOCs platform, MODeL, as part of the university's mission to provide wider access to quality higher education. The learner support system plays an important role in making sure that students have ways to communicate with the MOOCs facilitators. UPOU MODeL provided different tools for students to discuss their MOOCs-related concerns through Facebook Group, MODeL LMS, and email. This study showed how social media (Learning Management System (LMS), Facebook page, and Email) were used as communication and learner support tools to address various MOOCs-related inquiries. The results of the study showed that the questions asked through Facebook Group are preferable for Administrative-related matters. The study also revealed that the students preferred communicating

through email for their inquiries related to Counseling and Tutorial Support.

Rationale

With the adoption of the Sustainable Development Goals (SDGs) and the Education 2030 Framework for Action in 2015, access to education has been placed at the heart of the international development agenda to address all forms of exclusion and inequalities in access, participation and learning outcomes (Chien & Huebler, 2018). The massive open online courses (MOOCs), with its characteristics of being massive, accessible everywhere online, open to everyone, and free of charge, play an important role in bridging the gap between the teacher and the learners. MOOCs gives more flexibility, access and equity in a learning environment and thus provides more access to education to more people, who are being denied access to education based on race, religion, language, ethnicity, age, socio-economic status, gender, culture, physical or intellectual capacities, etc.

The University of the Philippines Open University (UPOU) offers free online courses through the UPOU massive open online courses (MOOCs hereafter) platform, MODeL, as part of the university's mission to provide wider access to quality higher education and in response to Republic Act 10650 (Open Distance Learning Law) which mandates UPOU to assist relevant national agencies, higher education institutions, and technical and vocational institutions in developing their distance education programs through training, technical assistance, research, and other academic programs.

As a relatively new phenomenon, the literature on MOOCs is still limited but the interest in this topic is growing among scholars, researchers, and distance education practitioners. This paper hopes to contribute to the finite literature on MOOCs in the Philippines. It focuses on the UPOU

MOOCs platform, MODeL, and how social media (Learning Management System (LMS), Facebook Page, and email) were used as learner support tools to communicate and address the various MOOCs-related inquiries.

Research Objective

This study aimed to explore how social media (Learning Management System (LMS), Facebook Page, and email) were used as communication and learner support tool to address various MOOCs-related inquiries.

Introduction

MOOC as a new approach to distance education, which originated from the open educational resources (OER) movement, is becoming widespread throughout the world (Pilli & Admiraal, 2016) and are among the latest e-learning initiative to attain popularity among many universities (Hew & Cheung, 2014). MOOCs are web-based online courses offered to an unlimited number of participants held by professors or other experts via video lectures, computer-graded tests, and discussion forums (Wulf, Blohm, Brenner, & Leimeister, 2014; Hoy, 2014). They are tagged as the latest in the line of disruptive technologies that are hitting higher education, associated with its characteristics of being massive, accessible everywhere online, open to everyone, and free of charge. The first known MOOC was created by the Massachusetts Institute of Technology (MIT) OpenCourseware in 2002 to provide free web access to MIT course materials (Pilli, 2016).

The term MOOC was originally used by George Simens and Stephen Downes in 2008, and since then has gained popularity in the USA especially when Sebastian Thrun, as Stanford professor offered an artificial intelligence course for free (Hu, 2013, as cited by Hew & Cheung, 2014).

Advocates of the MOOC initiative believe that it can offer educational benefits to higher education institutes, professors, and students (Hew & Cheung, 2014). Furthermore, MOOCs have been praised for bringing the educational opportunities of elite institutions to a wider audience, and for addressing the issue of increasing costs of higher education (Pilli, 2016).

MOOCs are characterized by its constitutive nature such as, a) a large number of participants or being "massive" for it can accommodate an unlimited number of participants in contrast with the traditional distance learning courses; b) open accessibility or being "open" to a wide target group of learners in informal conditions and offered free or with only minimal participation fees; c) digitization or being "online" since the whole course, including the learning resources, teaching process, discussions, and evaluations, is offered via the Internet ("online") making MOOCs accessible from any given location; d) follows a didactical concept in designing a course making the teaching process occur in established learning objectives that sets the course schedule, learning content structure, and assessment ahead of time (Clow 2013; McAuley et al. 2010; Vardi, 2012 as cited in Wulf, Blohm, Brenner, & Leimeister, 2014).

The evolution of MOOCs classification and categorization were seen to persist as MOOCs developed through the years. Table 1 lists some examples of how MOOCs were grouped or categorized.

Table 1. Categorization of MOOCs

Category	Basis/Source
1. cMOOCs (connectivist) **2.** xMOOCs (cognitivist-behaviorist)	Pedagogy (Seyedmonir, 2013, as cited by Pilli, 2016)
1. Market-oriented **2.** Open-resource oriented **3.** Dewey theory oriented	Orientation according to profit, openness and learning (Reich, 2012, as cited by Pilli, 2016)
1. Network-based **2.** Task-based **3.** Content-based	Type (Lane, 2012, as cited by Pilli, 2016)
1. transferMOOCs **2.** madeMOOCs **3.** syncMOOCs **4.** asyncMOOCs **5.** adaptiveMOOCs **6.** groupMOOCs **7.** connectivistMOOCs **8.** miniMOOCs	Learning Functionalities(Clark, 2014, as cited by Pilli, 2016)
1. Degree of openness **2.** Scale of participation (Massification) **3.** Use of Multimedia **4.** Degree of communication **5.** Degree of collaboration **6.** Learning pathway **7.** Quality Assurance **8.** Amount of reflection **9.** Certification **10.** Formal learning **11.** Autonomy **12.** Diversity	Design of course (Conole, 2013)
1. Openness of learning goals **2.** Resources selection **3.** Organization of learning activities **4.** Organization of group work and collaboration	Degree of Openness from the participants' point of view (Belen-Sapia, 20213, as cited by PIlli, 2016)
1. Small scale and less open **2.** Small scale and more open **3.** Large Scale and less open **4.** Small scale and more open	Dimensions in terms of Openness and Massiveness (Pilli, 2013)

MOOCs in the Philippines

Recognizing the potential that MOOCS has to offer to a wider audience and trusting in its many years of experience in open and distance education, UPOU embarked on a learning innovation of designing and opening its first MOOC. In the Philippines, the UPOU pioneered the offering of MOOCs that has been the premier Open University in the country and Southeast Asia. In 2012, UPOU, through the uLearn Project developed its first MOOCs platform, @ral. And in 2013, UPOU, in partnership with a major telecommunications company in the country, offered the first MOOC on "App Development Using the Android Platform" with 700 registered learners (Bandalaria & Figueroa, 2018). Since then, UPOU has launched numerous MOOCs workshops and "MOOCathons" or "unending conversations on MOOCs," that helped UPOU understand how MOOCs should focus on the specific skill set of a social sector.

UPOU continued to offer free online courses through its MOOCs platform, the Massive Open Distance eLearning, or the UPOU MODeL that is accessible at www.model.upou.edu.ph. UPOU Massive Open and Distance e-Learning (UPOU MODeL) has already offered a total of 84 courses since it started (see Table 2). Some of the certification programs that have been offered in MOOCs are Technology for Teaching and Learning, ODeL Teacher Accreditation, Business Analytics, and Sustainable Development (Bandalaria, 2018). Other MOOCs offered were under programs such as ASEAN Studies, eFilipiniana, and Interlocal Cooperation.

Table 2. Summary of UPOU MOOCs offering from 2013 to 2018

Year	Number of Courses Offered	Number of Enrolled Students	Number of Completers
2013	1	390	n/a
2014	1	859	n/a
2015	10	2547	48
2016	7	857	110
2017	23	1741	154
2018	38	2251	441

UPOU offers free online courses through the UPOU MOOCs platform, MODeL, as part of the university's mission to provide wider access to quality higher education and in response to Republic Act 10650 (Open Distance Learning Law).

Learner Support

The current academic discussion on learner support in MOOCs focuses on the contribution of learner support to the success and completion of MOOCs.

In China, one of the measures to address the high dropout rate in MOOCs is designing a perfect learning support service system and improving the capacity of their learning support service (Zheng, Chen, & Burgos, 2018). A high dropout and unsuccessful completion rates continue to be the major concerns of MOOCS providers (Bokurt, Akgün-Özbek & Zawacki-Richter, 2017). These issues contribute greatly to the negative discussion of MOOCs; however, research studies regarding learner support, which is an effective way to get students more involved in terms of attendance, completion, and participation (Labarthe, Bouchet, Bachelet & Yacef, 2016), are insufficient as observed in the study. Research ventures on learner support services in MOOCs

can contribute greatly to the literature by providing effective and efficient solutions to the aforementioned problems and issues that have been plaguing the rise of MOOCs over the years.

The definition of learner support varies through literature and often overlaps with student support. To distinguish the two, the latter is often referred to as tutoring, while the former is referred to as administrative and personal support. The widest definition of learner support is the "totality of the provision by an institution to support the learner, other than generic teaching materials produced by instructional designers/course producers" (Mills, 2003, pp.104). Its key function, therefore, is response and responsiveness (Thorpe, 2003, pp.199), since it should be available at all stages of the learning process, starting from entry to the end of the study career.

Such services offered by learner support are advice, guidance, and study support that should be suited to the needs of learners as these needs are also different per person, course, or year. Moreover, learner support should aim to "remove barriers to learning" (Brindley, 1995, as cited in Phillips, 2003; pp.170), especially in the context of open and distance learning where almost all interactions with students are technology-mediated.

Keast (1997) identified four types of learner support: administrative, technical, instructional, and counseling and tutorial support. Administrative support includes admissions, registration, course scheduling, student records, and financial transactions. In summary, these are organizational activities that ensure the operation of the institution or program, making it one of the crucial supports in the learning process. Second, in technical support, "operation of delivery mediums and offering technical assistance" are monitored for efficiency.
The third learner support, which is Instructional support, includes the "services of graduate assistants, instructional designers, technology personnel" and also involves "communication with tutorial support personnel." Lastly, counseling and tutorial support involves providing help, guide, and academic assistance, and creating a liaison between learners and instructors.

Malefi (2002; as cited in Usun, 2004) also categorized learner support into two: 1) Academic, including such packages as a tutorial, advising and counseling services; and 2) Administrative functions, such as enrolment; admission and registration; record keeping; information provision; and delivery of study materials.

Another set of types of Learner Support also emerged from the study of Dillon and Blanchard (1991; as cited in Usun, 2004) are the following: 1) Learner support that addresses learner needs; 2) Learner support and the needs of the content; 3) Learner support related to the institutional context; and, 4) Learner support and technology.

Social Media as a Learner Support Tool

One pressing issue that affects the development of MOOCs is the high dropout rate observed over the years. In attempts to explore mechanisms for enhancing retention, social media has is used as a tool to increase student engagement. In a study that looked into the role of social media in MOOCs by Zheng et. al (2016), it was revealed that students show higher engagement and retention in social media than in MOOC forums. In another study that determines how often the students benefit from their social media accounts for self-development and determines how the use of MOOCs program, results showed that students preferred their social media rather than obtaining information from pages related to MOOCs since they consider their social media accounts as their daily information and obtaining tool (Bicen, 2017).

While in an explorative interview study, the researcher delves into critically exploring how campus students perceive using social media to support their studies and their perceivedbenefits and limitations compared with other means. The interviews revealed that e-mail and instant messaging are useful to students when asking questions, coordinating group works, and sharing files. Students also used Facebook to communicate with course peers, and Wikipedia and Youtube to retrieve content relevant to their courses. Social media is viewed as one of the three key means of the educational experience, along with face-to-face meetings and employing a learning management system. Social media are generally used for asking questions briefly, and coordinating group work (Hrastinski & Aghaee, 2011).

Methodology

This paper used descriptive content analysis to determine the themes of the inquiries received from students through MODeL LMS, UPOU MODeL's GMail, and UPOU MODeL's Facebook Page from 2017 to 2018. Inquiries were categorized into themes namely Registration, Course Availability, Account Retrieval, Enrollment, Unenrollment, Course Details, Course Materials, Degree Programs, DE Readiness Module, Results and Certificates, and Materials/Submission Requirements. Inquiries were further categorized according to the type of learner support (administrative, technical, instructional, and counseling and tutorial support) Keast (1997). Results were presented using trend line graphs or descriptive analysis such as frequency or percentage values.

Results and Discussion

A. UPOU MOOC Platform: Main Features

The UPOU MOOC Platform, MODeL, was created using Moodle, a free and open source learning management system (LMS). MODeL is accessible at http:model.upou.edu.ph. The platform is composed of several features:

a. Main page

The main page of the MODeL serves as the landing page which is accessible to the public (see Figure 1). This can be accessed at http:model.upou.edu.ph. In this page, available courses, course offering schedule, and announcement page is accessible to everyone (see Figure 2 and Figure 3).

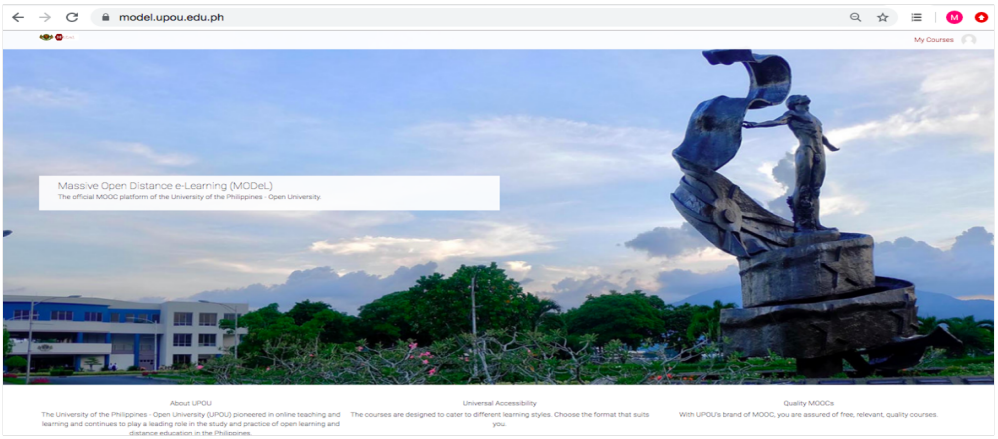

Figure 1. UPOU MOOCs platform, MODeL (http://model.upou.edu.ph)

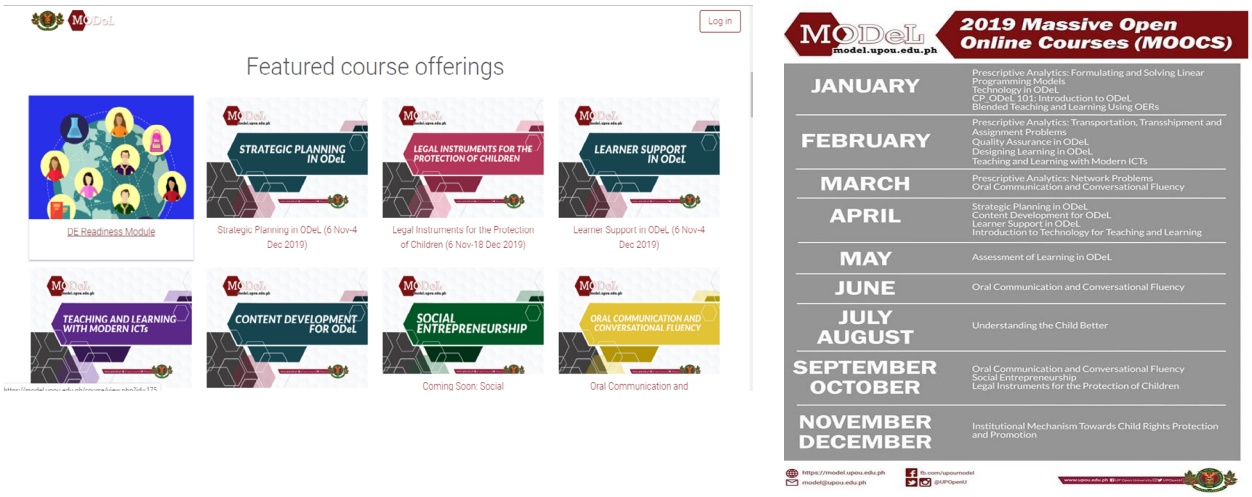

Figure 2. MOOCs Categories and Course Offering Schedule

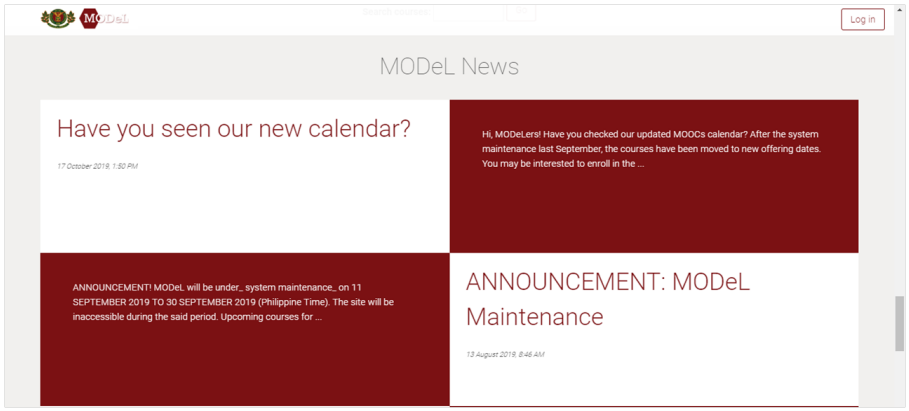

Figure 3. Announcement Section

b. Registration/Login Page

The first step to access and enrol in online courses at UPOU MODel is to register using the registration/login page (see Figure 4.). Here, you will be asked to fill out an online form with your details. You will also be asked to read and agree to the UP Data Privacy Statement.

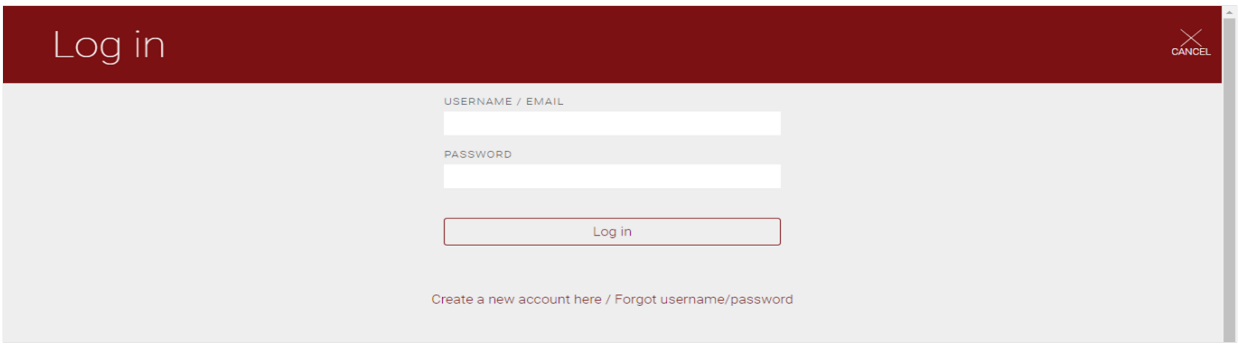

Figure 4. Login Page of MODeL

Figure 5 contains the step-by-step guide to register and enrol in the online courses in MODeL.

- Registration/enrollment

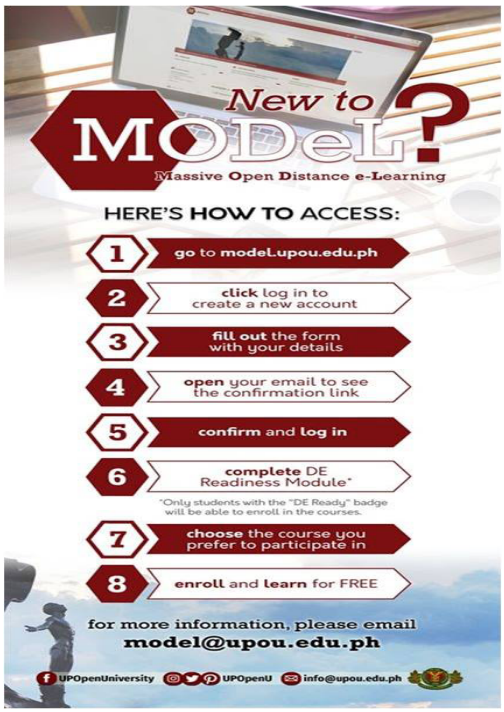

Figure 5. How to access MODeL

B. Social Media used as learner support tools

As part of the learner support services for the UPOU MOOCs platform, a Facebook page (https://www.facebook.com/pg/upoumodel/) (see Figure 6) and an official learner support email account (model@upou.edu.ph) were created to address the various MOOCs-related inquiries.

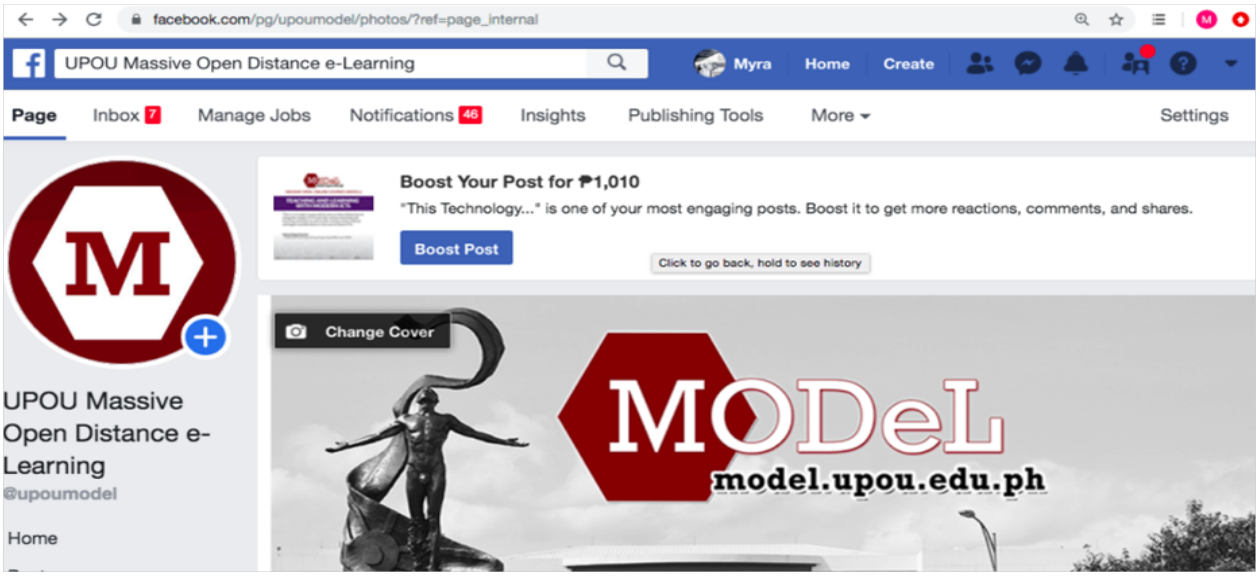

Figure 6. UPOU MODeL Facebook Page

a. Facebook Page

In 2018, more than half (61.7%) of the inquiries through Facebook Group is about Registration and Enrollment (Figure 7). There is a small portion (0.4%) about materials/submission. This implies that inquiring through Facebook group is much preferred when it comes to matters related to registration and enrollment.

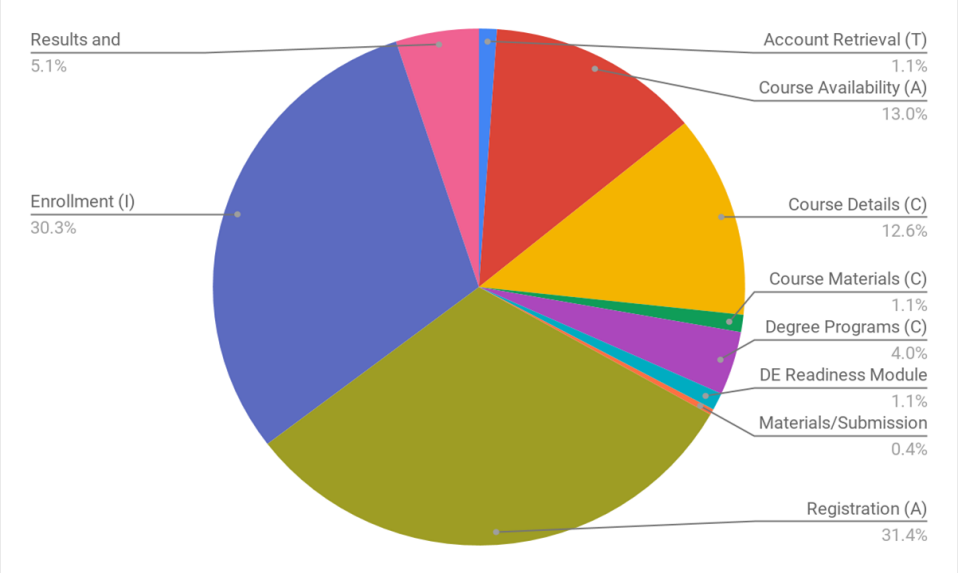

Figure 7. Types of inquiries received through Facebook (2018)

b. Email

In 2017, more than half of inquiries received by email were inquiries on Materials/Submission Requirements (33.5%), Enrollment (19.2%), Course Details (13.8), and Results and Certificates (10.3), while only 2% inquired about Registration (Table 3). Results also showed that in 2018, most of the inquiries were about Registration (24.23%), Results and Certificates (14.62%), Course Availability (11.5%), and Course Details (9.23). It indicates that inquiring through email is preferred when it comes to course-related matters. It also agrees with Hrastinski & Aghaee's (2011) findings that email is utilized by students when "asking questions, the coordinating group works, and sharing files."

Table 3. Inquiries through Email

Category	2017 (%)	2018 (%)
Account Retrieval (T)	2.5	4.62
Course Availability (A)	5.4	11.5
Course Details (C)	13.8	9.23
Course Materials (C)	5.9	2.3
Degree Programs (C)	2	5.77
DE Readiness Module (C)	2.5	3.46
Materials/Submission Requirements (C)	33.5	2.3

To be continued

From previous page (Table 3, page 33)		
Registration (A)	2	24.23
Enrollment (I)	19.2	20
Results and Certificates (C)	10.3	14.62
Unenrollment (I)	3	2.3
Total (%):	100	100

c. MODeL LMS

Results showed that in 2017, most of the inquiries received through MODeL LMS were on Results and Certificates (25%), Enrollment (20.8%), Materials/Submission Requirements (12.5%), and Course Materials (Table 4). While in 2018, results showed that inquiries Materials/Submission Requirements (30%), Results and Certificates (30%), and Enrollment (20%). It implies that students preferred to inquire matters on Results and Certificates, Enrollment Materials/ Submission Requirements through LMS.

Table 4. Inquiries through LMS

Category	2017 (%)	2018 (%)
Course Availability (A)	4.2	10
Course Details (C)	8.3	0
Course Materials (C)	12.5	0
Enrollment (I)	20.8	20
Materials/Submission Requirements (C)	12.5	30
Registration (A)	8.3	0
Results and Certificates (C)	25	30
Unenrollment (I)	8.3	10
Total (%):	100	100

Inquiries According to the Type of Learner Support

The inquiries received from varied platforms were grouped according to Keast's (1997) Types of Learner Support. Results showed that almost half of the inquiries received are related to Counseling and Tutorial Support (42%) and inquiries received were mostly through email (60%) (see Table 5). This implies that most of the students still preferred to communicate through email and also highlights the importance of email in keeping students guided, and well-assisted in their academic needs. Being responsive to every learners' needs through innovative methods of teaching and learning is one of the UPOU's mission as an academic institution that upholds humanism, social responsibility, and service to the nation.

Table 5. Inquiries according to Learner Support (Keast, 1997) received in 2017 and 2018 through social media

Category	FB	Email	LMS/ MODeL	Total
Administrative (A)	16%	14%	1%	30%
Technical (T)	0%	2%	0%	3%
Instructional (I)	11%	13%	1%	25%
Counseling and Tutorial Support (C)	9%	31%	3%	42%
Total	36%	60%	4%	100%

Conclusion and Recommendation

As a MOOCs Platform, UPOU's MODeL offers the necessary features that learners need to be able to obtain free and accessible lifelong education. These can be found under its Main Pages and Registration/Login Pages. Under the main page, learners can access the available courses, course offering schedule, and announcements. Through the Login/Registration page, the learners can create an account or log in to their existing account and begin learning with MOOCs.

The learner support system plays an important role in making sure that students have ways to communicate with the MOOCs facilitators. UPOU MODeL provided different avenues for students to communicate their MOOCs-related concerns through Facebook Page, MODeL LMS, and email.

Results showed that inquiries through Facebook Page are preferable for Administrative-related matters including inquiries on Registration and Course Availability.

Results also showed that students preferred email for inquiries related to Counseling and Tutorial Support such as inquiries on Course Details, Course Materials, Degree Programs, DE Readiness Module, Results and Certificates, and Materials/Submission Requirements.

For further studies, it is recommended to have a more in-depth analysis of the relationship between learner support and completion rate in UPOU MODeL. Evaluations and studies on how to further enhance the quality of UPOU's MOOCs and the mentioned platform should also be done for the betterment of the learning experience of the learners.

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Assessment of Supplementary Learning Resource Material on Selected Topic in Economics

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Abstract

To mainstream interactive learning and support the evolving paradigm shift in instruction, the University of the Philippines Los Baños (UPLB) through the Interactive Learning Center (ILC) initiated the development and production of Learning Objects (LOs). It is one of the interactive educational materials used as an innovative approach in offering curricular programs that are now being used by UPLB students as supplementary learning resource materials in various courses in the university.

Assessment of the LO on Consumption Function as supplementary learning resource material on teaching Economics was conducted in terms of knowledge gain of the students and determine its effectiveness based on LO quality standards in terms of attractiveness, comprehensibility, applicability, interactivity and assessment function. Students enrolled in ECON 11 (General Economics) during the First Semester 2017-2018 were divided into control and treatment groups and subjected to a pre-test-post-test for the LO assessment. The results showed that the treatment group had a significant increase in the mean scores after being exposed to the LO (4.83) as compared to the control group who did not view the LO (3.71). It indicated that students aided with LO had a better knowledge gain than those exposed only to regular class discussion.

Additionally, the Likert scale of scores 1 (strongly disagree) to 5 (strongly agree) was used to assess the treatment group's responses on the quality components of the LO. Computing for the weighted mean in each component, the results showed that most respondents agreed that the LO was attractive (4.39) and that it was both comprehensible (4.48) and applicable (4.40). Similarly, most respondents in the treatment group agreed that the LO was both interactive (4.30) and its assessment items were appropriate (4.30). Overall, the respondents agreed (4.36) that it enhanced their learning and assessed the evaluated LO as an effective supplementary interactive learning resource material for the economics topic on consumption function.

Keywords: *interactive learning, Learning Object, learning resource material*

Introduction

The field of e-learning is changing so rapidly that there is a growing need to provide excellent and effective pedagogical models and assessment programs, which involves the development of quality materials. As more higher education institutions begin to appreciate and embrace e-learning that involves technology-mediated teaching strategies and a variety of tools to facilitate learning, it has also become imperative to have high standards in developing these learning materials. Doing so will ensure the quality and consistency in its creation and use.

One of the online educational materials available that is used as an innovative approach in offering curricular programs are the Learning Objects (LOs), which are short, self-contained, reusable teaching materials that can be aggregated for a 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 at least a 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 which are instructor-led and 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) at the University of the Philippines Los Baños (UPLB) initiated the development and production of multimedia materials, specifically LOs primarily for undergraduate program courses. Among the LOs developed is the Consumption Function for Economics, which is the focus of this study.

Objectives

The general objective of the study is to assess the effectiveness of the LO on Consumption Function as supplementary learning resource material in teaching Economics. Specifically, it aims to determine the effect of LO exposure on the knowledge gain of the students, assess its effectiveness based on its various quality components and propose recommendations to improve the LO as an interactive learning tool.

The conceptual framework for this study illustrates the factors that will affect the knowledge gain of the students, which is considered as the dependent variable in the study (Figure 1). Effectiveness of the LO 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 the exposure to LO. Using the quality standards (attractiveness, clarity, and comprehensibility, applicability, interactivity, and assessment) as variables, the effectiveness of the LO was determined.

In addition, the respondents' socio-demographic characteristics as an intervening variable were considered in order to determine whether it may affect the relationship between the independent variable and the dependent variable.

Conceptual Framework

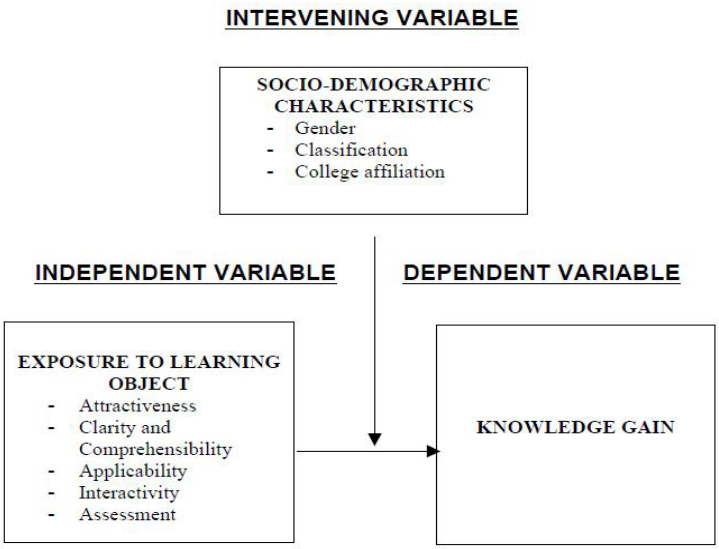

Figure 1. Conceptual Framework of the study

Methodology

The study was conducted during the First Semester Academic Year 2017-2018. The LO on Consumption Function (Figure 2) was evaluated by 134 students in ECO 11 (General Economics).

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

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 assess the LO based on the following quality components: a) Attractiveness, b) Clarity and Comprehensibility, c) Applicability, d) Interactivity and e) Assessment. Likert scale was adopted to evaluate the students' responses with the following notations: 1-strongly disagree (SD), 2-disagree (D), 3-neither agree nor 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.

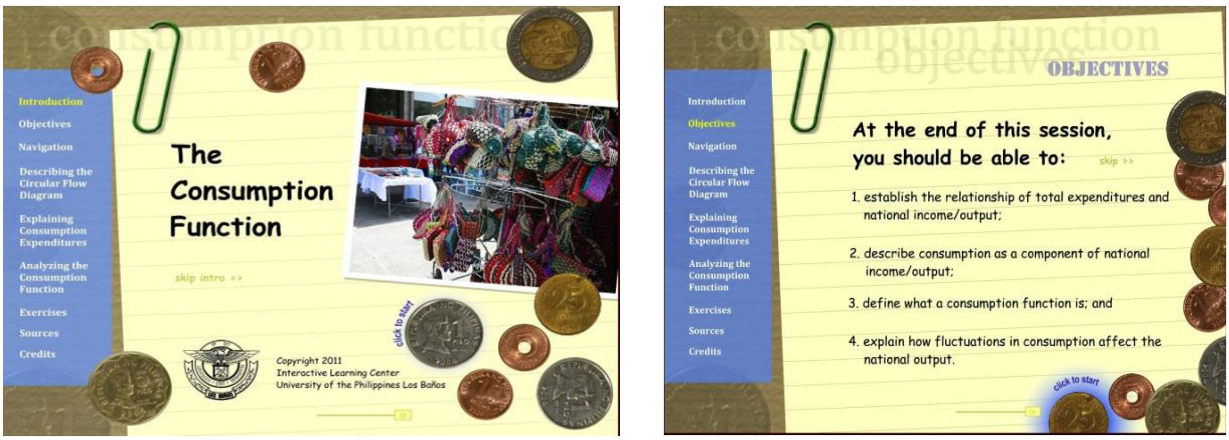

Figure 2. The LO on Consumption Function.

Results and Discussion

A. Respondents' Profile

As shown in Table 1, the majority of the respondents in the control and treatment groups were female. For the control group, females comprise 41 out of 75 students (54.67%) and 45.33% were male. For the treatment group, 67.80% were female while only 32.20% of the respondents were male.

Table 1. Gender of the respondents

Gender	Control		Treatment	
	N	%	N	%
Female	41	54.67	40	67.80
Male	34	45.33	19	32.20
Total	**75**	**100**	**59**	**100**

Table 2 shows that more than half (56%) of the respondents for the control group were junior students while 54% of the respondents from the treatment group were senior students. Least among the respondents for the control group was senior students (16.67%) while sophomore students (8.47%) numbered least for the treatment group.

Table 2. Classification of the respondents

Classification	Control		Treatment	
	N	%	N	%
Sophomore	22	29.33	5	8.47
Junior	42	56.00	22	37.29
Senior	11	16.67	32	54.29
Total	**75**	**100**	**59**	**100**

Regarding the college affiliations of the respondents, students from the CAFS (44.00%) dominated the control group. While students from CAFS (28.81%), together with CHE students (23.73%) dominated the respondents of the treatment group (Table 3).

Table 3. College affiliation of the respondents

College	Control		Treatment	
	N	%	N	%
College of Agriculture and Food Science (CAFS)	33	44.00	17	28.81
College of Arts and Sciences (CAS)	14	18.67	9	15.25
College of Development Communication (CDC)	1	1.33	3	5.08
College of Engineering and Agro-Industrial Technology (CEAT)	2	2.67	6	10.17
College of Economics and Management (CEM)	6	8.00	5	8.48
College of Forestry and Natural Resources (CFNR)	11	14.67	4	6.78

to be continued

From previous page (Table 3)				
College of Human Ecology (CHE)	8	10.67	14	23.73
College of Veterinary Medicine (CVM)	0	0	1	1.70
TOT	**75**	**100**	**59**	**100**

B. Knowledge Gain of Respondents

Knowledge gain pertains to the performance of the students based on the significant difference in their mean scores in the pre-test and post-test. The results in Table 4 showed that based on the t-test at 5% level of significance, there was a significant difference between the mean pre-test and post-test scores of the respondents in the control group, indicating that regular classroom discussion helped increase the knowledge gain of students. Similarly, there was a significant difference between the mean pre-test and post-test scores of the respondents in the treatment group. It indicates that regular classroom discussion plus the use of the LO helped increase the knowledge gain of students.

Table 4. Mean scores of the respondents in the pre-test and post-test and their computed t-test and z-test values

Respondents	**Mean score**		**T-test (P=0.05)**
	Pre-test	**Post-test**	
Control	**3.07**	**3.71**	**4.33***
Treatment	**2.92**	**4.83**	**12.64***
Z-test (P=0.05)	**0.07^{ns}**	**7.83***	

* = significant ns = not significant

Although the control group has a higher mean pre-test score than the treatment group, based on the z-test at 5% level of significance, there was no significant difference in their mean scores. It indicated that both groups of students have the same level of knowledge on Consumption Function before class discussion or LO viewing. On the other hand, when their mean post-test scores were put to a comparison, a significant difference was observed, with the treatment group gaining more knowledge than the control group. This significant improvement in the mean post-test score of the former is attributable to the use of LO as a supplementary learning resource material. From the results, it is advisable then to supplement regular classroom discussions with LO to enhance the information that will be assimilated by students on a particular subject matter.

To determine if the socio-demographic characteristics like gender, classification, and college affiliation of the respondents affected the observed significant differences in their mean pre-test scores and post-test scores, the Mann-Whitney and Kruskal-Wallis tests were used. The results revealed no significant differences in all (data not shown), an indication that the observed increases in knowledge gain of the control or treatment group are not influenced by their gender, classification, or college affiliation.

C. Evaluation of the Learning Object

Based on the criteria of the Learning Object Peer Review Rubric that was adapted from the Wisconsin Online Resource Center Interactive Learning Objects Quality Standards and also from 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. Recorded frequencies in each category were used in computing for the weighted mean values to aid in the analysis of the obtained response.

Attractiveness

Table 5 indicated that the majority of the respondents (86.44%) find the LO appealing both in terms of font styles and sizes. Of the 59 students, only eight (13.56%) neither agreed nor disagreed. Likewise, most of the respondents (96.81%) indicated that the text was legible, with 40 out of the 59 students (67.80%) strongly agreeing.

With regard to the embedded visuals of the LO, 49.15% of the students strongly agreed that they were not distracting while only ten students (10.16%) neither agreed nor disagreed. On the other hand, fifty-five (55) out of the 59 students (93.22%) indicated that the graphs and charts were labeled properly and free from clutter, with only four (6.77%) of them neither agreeing nor disagreeing.

Almost 80% of the respondents indicated that the use of color, pictures, and clip arts in the LO are aesthetically pleasing. Six respondents (10.17%), however, neither agreed nor disagreed and one student (1.69%) strongly disagreed. Some students suggested the following to improve the LO's attractiveness: (a) use other fonts like sans serif, (b) adjust the brightness of colors, and (c) add more pictures and graphics. In terms of the overall layout, 88.13% of the respondents indicated that the LO was presented in an interesting manner although some students commented that it can still be improved and the topics can be presented better.

In general, however, the respondents gave a positive view of the attractiveness of the LO with a computed weighted average of 4.39.

Table 5. Frequencies, percentage and weighted mean values of respondents on the attractiveness of the LO

Attractiveness Criteria	SA	A	NAD	D	SD	WEIGHTED MEAN
1. The use of font styles and font sizes was appealing.	26 (44.07%)	25 (42.37%)	4 (6.78%)	4 (6.78%)	0 (0.00%)	4.39
2. The text used was legible.	40 (67.80%)	17 (28.81%)	2 (3.39%)	0(0.00%)	0 (0.00%)	
3. The embedded visuals (text, pictures, graphs) used were not distracting.	29 (49.15%)	24 (40.68%)	3 (5.08%)	3 (5.08%)	0(0.00%)	
4. The graphs and charts were labeled properly and free from clutter.	38 (64.41%)	17 (28.81%)	3 (5.08%)	1 (1.69%)	0 (0.00%)	
5. The use of color and other features (pictures, clip arts, etc.) is aesthetically pleasing.	29 (49.15%)	18 (30.51%)	6 (10.17%)	5 (8.47%)	1 (1.69%)	
6. The overall layout of the LO was presented in an interesting manner.	31 (52.54%)	21 (35.59%)	5 (8.47%)	2 (3.39%)	0 (0.00%)	

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

Clarity and Comprehensibility

Table 6 shows that 98.31% of the respondents indicated that the LO has a clear purpose which is relevant to the learner. More than half of the respondents (54.24%) strongly agreed that the LO reflected a measurable learning outcome while 44.07% strongly agreed that it addressed content mastery as well as critical thinking ability. Nevertheless, four (6.78%)
of the respondents, neither agreed nor disagreed on this statement, and two (3.39%) specified disagreements. In addition, 94.92% of the respondents favorably signified that the LO helped learners to understand the concept being presented.

Overall, the respondents agreed that the LO is effective in showing clarity of purpose, comprehensibility of learning outcomes, content mastery, and is able to address the critical thinking ability of the respondents with a computed weighted average of 4.48.

Table 6. Frequencies, percentage and weighted mean values of respondents on the clarity and comprehensibility of the LO

Clarity and Comprehensibility Criteria	SA	A	NAD	D	SD	WEIGHTED MEAN
1. The LO shows a clear purpose, i.e., it is immediately relevant to the learner.	38 (64.41%)	20 (33.90%)	1 (1.69%)	0 (0.00%)	0 (0.00%)	**4.48**
2. It reflects a measurable learning outcome.	32 (54.24%)	23 (38.98%)	3 (5.08%)	1 (1.69%)	0 (0.00%)	
3. It addresses content mastery as well as critical thinking ability.	**26 (44.07%)**	**27 (45.76%)**	**4 (6.78%)**	**2 (3.39%)**	**0 (0.00%)**	
4. It helps learners understand the concept that is being presented.	34 (57.63%)	22 (37.29%)	3 (5.08%)	0 (0.00%)	0 (0.00%)	

Applicability

Majority of the respondents (89.83%) favorably indicated that the
LO can be applied to courses in different subject areas with
50.85% of the respondents strongly agreeing on this statement (Table 7). However, four (5.08%) students disagreed or strongly disagreed on this statement. More than half of the respondents (54.24%) strongly agreed that the LO can be to different programs of study while almost 92% signified that it can also be grouped into larger collections of content, including traditional course structures.

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 4.40.

Table 7. Frequencies, percentage and weighted mean values of respondents on the applicability of the LO

Applicability Criteria	SA	A	NAD	D	SD	WEIGHTED MEAN
1. It can be applied to courses in different subject areas.	30 (50.85%)	23 (38.98%)	3 (5.08%)	2 (3.39%)	1 (1.69%)	**4.40**
2. It can be applied to different programs of study.	31 (54.24%)	23 (38.98%)	4 (6.78%)	0 (0.00%)	1 (1.69%)	
3. It can be grouped into larger collections of content, including traditional course structures.	32 (52.54%)	23 (38.98%)	3 (5.08%)	0 (0.00%)	1 (1.69%)	

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

Interactivity

As shown in Table 8, 42.37% of the respondents strongly agreed that the LO offered interaction on part of the learner with the learning materials, which suggests responding and acting to apply higher-order thinking skills. Almost half of the respondents (46%) also agreed on this statement. Additionally, 81.99% of the respondents indicated that the LO can stand alone or it is not dependent on other sources such as textbook chapters and videos.

Meanwhile, half of the respondents (50.85%) strongly agreed that the LO contains all the information and materials needed to complete the activity. However, 8.47% of the respondents neither agreed nor disagreed, and with three (5.08%) students disagreeing or strongly disagreeing. Results also showed that almost 95% of the respondents believed that the LO is easy to use with more than half (54.24%) of the respondents strongly agreeing on this statement.

Still, some students commented there is a need to improve the flow and transition of the LO by having a replay or back button on each part so that there is no need to go back to the main menu. Some of the students also suggested to include an option that will let the user adjust the volume of audio and to regulate the speed of the video, based on the user's preferences.

In general, the respondents agreed that the LO was able to support usability and navigation to ensure independence of its use, having a computed weighted average of 4.30.

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

Interactivity Criteria	SA	A	NAD	D	SD	WEIGHTED MEAN
1. It requires interaction on the part of the learner with the learning materials, i.e. responding and acting to apply higher-order thinking skills.	25 (42.37%)	27 (45.76%)	7 (11.86%)	0 (0.00%)	0 (0.00%)	**4.30**
2. It can stand alone, i.e., it is not dependent on external sources (textbook chapters, videos).	22 (37.29%)	26 (44.07%)	7 (11.86%)	4 (6.78%)	0 (0.00%)	
3. It contains all information and materials needed to complete the activity, e.g., introduction, summary, learning content.	30 (50.85%)	21 (35.59%)	5 (8.47%)	2 (3.39%)	1 (1.69%)	
4. It is easy to use for the learner.	32 (54.24%)	24 (40.68%)	1 (1.69%)	2 (3.39%)	0 (0.00%)	

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

Assessment Function

The results in Table 9 shows that almost 97% of the respondents signified that the LO has assessment items that measure the achievement of the stated objectives. This is supported by 44.07% of the respondents strongly agreeing and 52.54% agreeing on the said statement. With regard to the responses on whether the LO has assessment items that provide feedback, 84.74% of the respondents strongly agreed or agreed while four (6.78%) respondents disagreed.

Almost 46% of the respondents strongly agreed that the assessment type is appropriate while about 48% strongly agreed that the "Self-Check" or practice assignments provided for quick learner feedback. However, some students suggested having more questions ranging from easy to difficult items. They also prefer to have more examples and explanations concerning the correct answer to the questions.

Overall, the respondents agreed that the LO was effective in its assessment function with a computed weighted mean of 4.30.

Table 9. Frequencies, percentage and weighted mean values of respondents on the assessment function of the LO

Assessment Criteria	SA	A	NAD	D	SD	WEIGHTED MEAN
1. It has an assessment that measures the achievement of stated objective.	26 (44.07%)	31 (52.54%)	2 (3.39%)	0 (0.00%)	0 (0.00%)	4.30
2. It has an assessment that provides feedback.	19 (32.20%)	31 (52.54%)	5 (8.47%)	4 (6.78%)	0 (0.00%)	
3. It has an assessment type that is appropriate.	27 (45.76%)	29 (49.15%)	2 (3.39%)	0 (0.00%)	1 (1.69%)	
4. It has "Self-Check" or practice assignments are provided for quick learner feedback.	28 (47.46%)	24 (40.68%)	5 (8.47%)	2 (3.39%)	0 (0.00%)	

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

Enhanced Learning

Lastly, it was determined if the students perceived that the LO enhanced their learning on the topic. Table 10 shows that 94.92% of the respondents gave a very positive rating confirming that the LO has enhanced their knowledge of the subject matter. With a computed weighted mean of 4.36, the respondents agreed that the LO is an effective supplemental interactive learning material on Consumption Function.

Table 10. Frequencies, percentage and weighted mean values of respondents on the enhancement of learning due to the use of LO

The Learning object enhanced learning on the topic.	SA	A	NAD	D	SD	WEIGHTED MEAN
	24 (40.68%)	32 (54.24%)	3 (5.08%)	0 (0.00%)	0 (0.00%)	**4.36**

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

Conclusion and Recommendations

Assessment of the LO on Consumption Function by selected UPLB students revealed that it is an effective supplementary learning resource material that can enhance the knowledge gain of the students. The results also showed that socio-demographic characteristics exerted no significant differences in the respondents' knowledge gain between pre-test and post-test scores both for the control and treatment groups across gender, classification, and college affiliations of the respondents. Most respondents also agreed that the LO is aesthetically pleasing although improvements can still be made with regard to its fonts, color brightness, and inclusion of additional pictures and graphics. In addition, the LO is successful in showing clarity of purpose and learning outcomes as well as on its perceived applicability, interactivity, and assessment function. Overall, based on the weighted mean of each criterion, all values indicate that the LO on Consumption Function is an effective tool for supplementary teaching and learning of students.

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Students' Readiness for Online and Distance Education at the Nueva Vizcaya State University

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Abstract

Utilizing quantitative research through the survey method as the means of gathering data, this study harnessed a researcher-developed questionnaire to draw the responses of 38 graduating students from the Accountancy, Business and Management Track of the Nueva Vizcaya State University College of Teacher Education Senior High School program, to assess their readiness for online and distance education.

Results showed that the graduating students from the SHS ABM Track have favorable overall attitudes towards e-learning and are ready for online and distance education. Moreover, the students are competent in the use of offline computer-based technologies, are competent in the use of mobile-based technologies, and are competent in the use of internet-based technologies.

The results manifest the following: (1) there is a very significant and positive correlation between students' activities in computer-based technologies (offline) and their attitudes towards learning; (2) there is a significant and positive correlation between students' mobile internet activity and their attitudes towards e-learning; and, (3) a very significant and positive correlation between the students' internet-based activities and their attitudes towards e-learning.

Based on the strengths of the results, recommendations on how the University may be able to strengthen its ODE capability and to respond to the needs of prospective students were placed forward for consideration by the administration.

Keywords: *Open and Distance Education, students readiness, computer-based technologies, attitudes towards learning, attitudes towards e-learning, internet-based activities, self-directed learning & control*

Introduction

Background of the Study

Lane (2014) has explained that there is an iron triangle that must be modified to reflect the perspective of the prospective learner rather than the educational institution. According to Lane, the learner's level of confidence or preparedness is one of three factors that can be measured through surveys, especially within the context of costs that is associated to their educational provision. It is situated in a broader social mission and social returns of investment, as a means of enhancing reputation or visibility, especially in the case of publicly funded educational institutions. Further, Lane's (pp. 6-7) interaction engagement equivalency theorem emphasized that the high levels of motivation, organization, or preparedness on the part of the student can offset lower levels in others.

More importantly, it is in the context of harnessing the positivist research paradigm (Kivunja and Kuyini, 2017, p. 37) to consolidate, test and, utilize a survey tool that is derived from a comprehensive review of existing related literature. The survey tool must be based on eight studies published online that utilized empirical research to be able to establish the importance of looking into the readiness of students for online and distance education (OLDE). It must be one of the bases of a school to consider shifting from the traditional campus-based education to online and/or dual-mode academic institutions.

One academic institution in the Philippines which has recently set its projectile towards internationalization is the Nueva Vizcaya State University (NVSU). A merger between the former Nueva Vizcaya State Institute of Technology (NVSIT) of Bayombong and the Nueva Vizcaya Polytechnic College of Bambang, the NVSU is considered as a dominant higher education institution in the province of Nueva Vizcaya and having been part of the formation for more than a century.

Having previously received its ISO certification and passed the Civil Services Commission (CSC) high accreditation, this academic institution which has, most recently, had been elevated to Level IV State University and College (SUC), all within the initial term of a dynamic and courageous university president, Dr. Andres Z. Taguiam, as emboldened by the new vision of becoming "A Premier University in a Global Community" by transforming itself as a reliable provider of high-quality Open Distance Education (ODE) programs as a dual-mode institution for Filipinos and other Learners anywhere in the world.

Thus, this topic of student readiness for online and distance education has sufficient empirical background and is of interest to NVSU's various stakeholders.

Objectives

This research assessed the readiness for online and distance education of selected incoming freshmen students at Nueva Vizcaya State University.
Specifically this research sought to:

1.Describe the profile of incoming freshmen students in terms of their:
1.1 Demographic & Academic characteristics;
1.2 Prior experience & training in e-learning/online and distance learning;
1.3 Degree of confidence in using ICT Tools;
1.4 Access to, frequency of use, & ownership of ICT/digital tools; and
1.5 Means of access to the internet when inside and/or outside the university.
2. Describe incoming freshmen students' online & distance education readiness in terms of:
2.1 Activities using computer-based, mobile-based and web-based technologies;
2.2 Self-directed learning & control; and,
2.3 Overall attitudes towards e-learning
3. Test for significant relationships between and among the profile variables and the measures of online & distance education readiness.

Conceptual Framework

Table 1. Concepts and Variables Utilized

Concepts and Variables	References
Demographic and academic profile characteristics	Byungura et al., 2018, Simmiyu, 2014; and Davis, 2006
Ownership and access to digital tools	Byungura, et al., 2018, Simiyu, 2014
Prior experience	Byungura et al., 2018; Davis, 2006
Previous computer training	Byungura et al., 2018
Use of digital tools	Byungura, et al., 2018
	To be continued

From previous page..(Table 1, page 52)	
Mobile-based technology activities	Byungura et al., 2018
Character/traits for online class	Davis, 2006
Web-based technology activities	Byungura, et al., 2018
Computer-based technology activities	Byungura et al., 2018
Computer skills level	Vasileska, et al. 2017
Technology usage and skills	Zabadi and Alawi, 2016
Confidence on using ICT tools	Byungura et al., 2018

This study utilized eight published paper to establish its framework. Three of which highlighted the need to establish demographic and academic profile characteristics (Byungura et al., 2018, Simmiyu, 2014; and Davis, 2006); two for ownership and access to digital tools (Byungura, et al., 2018, Simiyu, 2014) and prior experience (Byungura et al., 2018; Davis, 2006), while one presented the need to establish previous computer training (Byunugra et al., 2018), frequency of use of digital tools (Byungura, et al., 2018), mobile-based technology activities (Byungura et al., 2018), character/ traits for an online class (Davis, 2006), web-based technology activities (Byungura, et al., 2018), computer-based technology activities (Byungura et al., 2018), computer skills level (Vasileska, et al. 2017), technology usage and skills (Zabadi and Alawi, 2016), degree of confidence on using ICT tools (Byungura et al., 2018). With regard to online and distance education readiness of students, it was found that three of the eight related studies focused on online learning readiness (Hung et al., 2010; Doe et al., 2017; Kirmizi, 2015), while one study each delved on online readiness (Doe et al., 2017), character traits for online class success (Davis, 2006) and overall attitudes towards e-learning (Zabadi, et al., 2016).

Methodology

Data Collection Instrument

A self-administered survey questionnaire, adopted and consolidated from the various concepts and variables was subjected into several tests before it was utilized in the study. Particularly it underwent the following:

Instrument validity and reliability

To ensure its validity, the developed survey questionnaire was subjected to several phases of refinement including merging and consolidating repetitive and similar constructs, questionnaire items, etc. to arrive at its final form, and subjected to an item review by fellow academics.

To establish its reliability, the survey instrument was subjected to tryout data gathering on 38 graduating students from the Senior High School ABM track. The following describe the details, including the number of items of the parts of the questionnaire and results of the reliability test using Cronbach's alpha (Table 2).

Table 2. Results of Test of Reliability of Questionnaire Items via Cronbach's Alpha

Construct	Number of Items	Correlation	Remarks
Degree of confidence in using ICT tools	9	.800	Reliable
Level of access to ICT tools	13	.764	Reliable
Use of computer-based technologies (offline)	21	.917	Reliable
Use of mobile-based technology	12	.874	Reliable
Use of internet-based technology	28	.918	Reliable
Self- directed learning and learner control	36	.946	Reliable
Overall attitudes to e-learning	10	.885	Reliable

The results confirm that all the research constructs presented above are reliable for each has passed the threshold value of 0.700, which is acceptable for Cronbach's alpha (Gliem and Gliem, 2003, p. 87). The constructs which did not immediately meet the threshold and/or were found to have too few responses were revised accordingly.

Data Gathering Procedure

The survey questionnaire was floated to the ABM graduating students with the assistance of the assigned/cooperating teacher in the Senior High School program, and after permission was granted by the University President, through the Vice President for Academic Affairs and the Principal.

The researcher was at hand to provide clarifications to the respondents during the period of data gathering.

Treatment of Data

The Statistical Package for Social Science Researches (SPSS) version 16 was utilized to process the gathered data presented in Table 3 below.

Table 3. Objectives-Variables-Data Analysis Plan

Objectives	Variables	Data Analysis
1. Describe the profile of freshmen students	1.1 Demographic & Academic characteristics; 1.2 Prior experience & training in e-learning/online and distance learning; 1.3 Degree of confidence in using ICT Tools; 1.4 Access to, frequency of use, & ownership of ICT/digital tools; and, 1.5 Means of access to the internet when inside and/or outside the university.	

To be continued..

From previous page.. (Table 3, page 54)		
2. Describe the freshmen students online and distance education readiness	2.1 Activities using computer-based, mobile-based and web-based technologies; 2.2 Self-directed learning and control; and 2.3 Overall attitudes towards e-learning.	Means, percentages, standard deviation, and variances
3. Test for significant correlation between and among students' profile and the measures of online and distance education readiness	Same variables identified for objectives 1 & 2 above	Pearson's correlation

Table 4. Data Interpretation Scale

Scale	Mean Range	Qualitative Description	OLDE Readiness Interpretation
4	3.50-4.00	Very Confident/ Unlimited/ Always/ Very competent/ Very favorable	Ready on their own, needing very little intervention
3	2.50-3.49	Quite Confident/ Open but limited/ Often/ Competent Favorable	Ready but still needs some interventions
2	1.50-2.49	A little Confident/ Open but very limited/ Sometimes/ Nearing Competent Somewhat Favorable	Somewhat ready but needs a lot of interventions
1	1.00-1.49	Not Confident/ No access/ Never/ Not competent Not favorable	Nearly ready

Profile of the Respondents

Table 5. Respondent's Profile

Profile Variables	Frequency	Percent
Sex		
Male	5	13.2%
Female	33	86.8%
Total	38	100%

To be continued

From previous page...(Table 5, page 55)		
Variable	**Frequency**	**Percent**
Year of Birth		
2000	17	44.7%
2001	21	55.3%
Total	38	100%
With OLDE Experience	18	47.4%
Degree of Experience		
Very Difficult	1	6.3%
Quite Difficult	8	50%
Quite Easy	7	43.8%
Total	16	100%
Kind of online and distance learning experience		
Part of subject	17	100%
Utilization of OLDE competencies		
A little	4	28.6%
Every now and then	5	35.7%
Most of the time	5	35.7%
Total	14	100%
Place of Access		
At Home	12	85.7%
At Computer Shops	1	7.1%
Free Wi-Fi sites	1	7.1%
Total	14	100%

The results presented in Table 1 describe the participants of the study in terms of their personal profile (sex and year of birth), and academic profile, (OLDE experience, degree of difficulty and kind, utilization of OLDE competencies, place of access of online course).

Sex. Of the 38 graduating Senior High School students of the Accountancy, Business and Management (ABM) strand who participated in the study, five (13.20%) of them were males while 33 (86.80%) were females.

Year of birth. In terms of birth year, 21 of the 38 respondents (55.30%) were born in the year 2001, while 17 (44.70%) were born in the year 2000, thus, all respondents may be said to be coming from the millennial generation.

OLDE experience. There were 18 respondents (47.40%) who acknowledged that they had some experience in OLDE.

Difficulty of OLDE experience. Of the 16 respondents who described the degree of difficulty of their experiences, eight (50.00%) said it was quite difficult, seven (43.80%) thought it was quite easy, and only one (6.30%) assessed his/her experience as very difficult.

Kind of OLDE experience. All of the 17 respondents (100.00%) who provided data said that their experience with OLDE was part of a subject or course during their time in the Senior High School in the University.

Utilization of OLDE competencies. Of the 14 students who responded to the question of whether or not they are able to utilize the competencies learned from the OLDE course, five and five (or about 35.70%, respectively), claimed that they indeed used it every now and then and/or most of the time. However, four respondents or 28.60 percent said they were only able to use those competencies to a little extent.

Place of access. The 12 of the 14 respondents, or 85.70 percent, who identified the places of access to their OLDE course said they did it at home, while one respondent each, or about 7.10 percent, respectively, utilized either computer shops and/or free Wi-Fi sites.

Table 6. Respondents' Degree of Confidence in Using ICT Tools

ICT Tools	N	Mean	Std. Deviation	Variance
E-learning systems	36	2.4167	.64918	.421
Word processing	38	3.1053	.79829	.637
Excel spreadsheets	37	2.5946	.59905	.359
PowerPoint	38	3.3684	.63335	.401
MS Access	38	2.4737	.79651	.634
Email systems	38	2.3947	.67941	.462
Online forum chats	38	2.4211	.82631	.683
Browsing	38	3.4474	.64504	.416
Web-based research tools	38	2.8947	.64889	.421
Overall, Confidence	**38**	**2.7935**	**.44234**	**.196**

Legend: Not Confident: 1 (1.00-1.49); A Little Confident: 2 (1.50-2.49); Quite Confident 3 (2.50-3.49); Very Confident: 4 (3.50-4.00).

The respondents' degree of confidence in using ICT tools is described in terms of their use of E-learning systems, Word processing, Excel spreadsheets, PowerPoint presentations, MS Access, email systems, online forum chats, browsing, and web-based research tools.

On the other hand, the results show that students are a little confident when using e-learning systems, MS Access, e-mail systems, and online forum chats. On the other hand, they are quite confident in word processing, excel spreadsheets, PowerPoint, browsing, and web-based research tools. Overall, however, the respondents are only a little confident of their use of ICT tools, which may indicate that the University may still need to provide some interventions to further enhance their ICT competencies.

Table 7. Respondents' Level of Access to ICT Tools and Technology

ICT Tools	N	Mean	Std. Deviation	Variance
Desktop computer	38	2.6053	.78978	.624
Laptop computer	38	3.0000	.86992	.757
Tablet	38	1.9474	1.08919	1.186
Smart phone	37	3.5676	.89878	.808

To be continued..

From previous page.. (Table 7, page 57)				
PDA	35	1.5143	.74247	.551
Audio Recorder	38	2.5263	1.15634	1.337
Television	38	3.4474	.92114	.849
Radio	38	3.0263	1.05233	1.107
CD/DVD Player	38	2.8684	1.11915	1.252
Flash drive/disk	38	3.2895	.95600	.914
Wi-Fi Internet	38	3.0000	1.13899	1.297
Cable Internet	38	2.4211	1.28676	1.656
Data Internet	38	3.5526	.92114	849
Overall, Access to ICT	38	2.8365	.53332	.284

The results show that respondents consider themselves to have little access to the use of tablets, PDAs, and Cable internet. The respondents reported open but limited access, a 3 out of the 4-point Likert scale, in their use of the following ICT tools: desktop computer, laptop computer, audio recorder, television, radio, CD/DVD player, flash drive. However, the respondents also admitted that they are very confident in the use of smartphones and data internet.

Overall, the reported access to ICT by the respondents is open but limited with 3 of the 4-point Likert scale.

Table 8. Respondents' Frequency of Use of ICT Tools and Technology

ICT Tools	N	Mean	Std. Deviation	Variance
Desktop computer	37	2.5676	.68882	.474
Laptop computer	37	3.0541	.77981	.608
Tablet	37	2.0541	1.02594	1.053
Smart phone	38	3.6842	.87318	.762
PDA	33	1.6061	.74747	.559
Audio Recorder	35	2.3143	.93215	.869
Television	36	3.5278	.90982	.828
Radio	36	2.8611	1.09942	1.209
CD/DVD Player	37	2.3784	1.00971	1.020
Flash drive/disk	37	3.1892	.96718	.935
Wi-Fi Internet	37	3.0811	.98258	.965
Cable Internet	37	2.3243	1.20310	1.447
Data Internet	37	3.5676	.86732	.752
Overall, Use of ICT Tools	**38**	**2.7887**	**.45392**	**.206**

The survey results show that the respondents sometimes utilize the following ICT tools and technology, namely: tablet, PDA, audio recorder, CD/DVD player, and cable internet. The respondents also reported that they often used the desktop computer, laptop computer, radio, flash drive/disk, and Wi-Fi internet. These students also always use the data internet, television, and smart phones. Overall results show that respondents often used ICT tools, a 3 of 4 on the Likert scale.

Table 9. Respondents' Means of Internet Access Inside the University

Access the Internet when Inside the University	N	Mean	Std. Deviation	Variance
Free Wi-Fi	37	2.5676	.86732	.752
Cyber Café	37	1.4595	.69100	.477
Load/Data	38	3.5000	.76229	.581
Computer Lab	38	2.0526	.65543	.430
Cable-Internet	38	1.6053	.85549	.732
Overall, ICT Access within the University	38	2.2408	.46816	.219

In terms of students' means of internet access, while they are inside the University, the report shows that they have unlimited access when utilizing their own load/data while they have open but limited access through University free wi-fi. Moreover, they also believe that they have open but very limited access to the internet through the computer laboratories, cable-internet, and cyber-café while they are inside the University. Finally, students rated their overall ICT access within the University as open but very limited, 2 out of 4 on the Likert scale. It may indicate that the University would need to consider enhancing its ICT capability through building better facilities, by improving the quality of the services of existing ICT means, and by expanding its network to new and/or better providers.

Table 10. Respondents' Means of Internet Access Outside the University

Access to the Internet When Outside the University	N	Mean	Std. Deviation	Variance
Free Wi-Fi	38	2.3947	.88652	.786
Cyber Café	38	1.6316	.67468	.455
Load/Data	38	3.4737	.76182	.580
Computer Lab	37	1.8108	.70071	.491
Cable-Internet	38	1.6579	.78072	.610
Overall, Internet Access When Outside the University	**38**	**2.2000**	**.45322**	**.205**

The report on Table 10 shows how students regard their access to the internet when they are outside the University. The results show that students believe that they have open but limited access when utilizing their own load/data. Moreover, they also have open but very limited access when utilizing the University's free Wi-Fi, cyber café, computer laboratories, and cable internet services. In general, the respondents declared that their access to the internet is open but very limited, a 2 of 4 on the Likert scale.

The current result mirrors the respondents' perspective that they also have open but very limited access to ICT even when they are inside the University (see Table 9). The overall results suggest that the University may need to develop strategies that would address its would-be freshman students' limitations in accessing the web. These strategies would let the institution become a reliable academic institution in terms of e-learning, dual-mode learning, and/or open, and distance learning/ education.

Incoming Freshmen Students' Online and Distance Education Readiness

Table 11. Respondents' Activities Using Offline Computer-Based Technologies

Competence Offline Computer-based Activities	N	Mean	Std. Deviation	Variance
Employ computers in learning, projects & assignments	38	3.1053	.60580	.367
Format a report for paper on word processing program	38	2.8947	.68928	.475
Open files from a specific file folder in a computer	38	3.1842	.80052	.641
Record information	38	2.9737	.82156	.675
Read and analyze study materials	38	3.0789	.58732	.345
Use basic and office programs	38	3.0526	.80362	.646
Use computers to play electronic games	38	2.4211	1.00355	1.007
Use graphic editors such as CorelDraw	38	2.0000	.73521	.541
Use MS Access to create small databases	38	2.4474	.76042	.578
Use MS Excel to create tables	38	3.0789	.71212	.507
Use MS PowerPoint to create presentations	38	3.4474	.64504	.416
Use MS Word to create documents	38	3.5000	.72597	.527
Use operating systems	38	2.6579	.87846	.772
Use software to create video and audio files	38	3.0263	.71610	.513
Create graphs, charts, diagrams, tables, presentations and reports	38	3.3421	.78072	.610
Take digital photos	38	3.0789	.78436	.615
Use software to create web pages	38	2.4211	.94816	.899
Use word processors, calculator, games	38	2.8947	.89411	.799
Utilize CMS for advertising specialists	38	1.9474	.73328	.538
Utilize data bases for web designers	38	2.0526	.76925	.592
Work with computer technologies	35	2.8571	.77242	.597
Overall Competence, Offline Computer-based Technologies	38	2.8330	.47855	.229

The results show that respondents believe themselves to be competent in 14 offline computer-based activities, particularly: employing computers in learning, projects & assignments, formatting reports on word processing program, opening files in a computer, recording information, reading and analyzing study materials, using basic and office programs, using MS Powerpoint, using operating systems, using software to create video and audio, creating graphs, charts, diagrams, tables, presentations, and reports, taking digital photos, using word processors, calculator, & games, and working with computer technologies.

However, respondents regard themselves as nearing competent only in terms of using computers to play electronic games, graphic editors, in using MS Access to create small databases, the creation of web pages, utilization of CMS for advertising specialists, utilizing databases for web designers. On the other hand, the respondents believe that they are very competent in using MS Word to create documents.

Finally, the respondents overall regard themselves to be competent in offline computer-based technologies, a 3 of 4 on the Likert scale. This indicates that the incoming freshmen students are ready for OLDE but would need some interventions to ensure success.

Table 12. Respondents' Activities Using Mobile-based Technology

Mobile-based Technology Activities	N	Mean	Std. Deviation	Variance
Access social media (Facebook, Instagram, etc.)	38	3.6579	.58246	.339
Address problems in using the internet	38	2.7105	.86705	.752
Address the threats or effects of computer technologies	38	2.5789	.75808	.575
Call friends, clients, classmates, etc.	38	3.5263	.72548	.526
Create blogs on social media	38	2.2895	1.01096	1.022
Engage in Leisure activities	38	2.6053	.82329	.678
Handle operating systems at the level of the system administrator	38	2.2105	.87481	.765
Make live calls	38	3.0789	1.02355	1.048
Organize calendar of activities	38	2.9474	.92845	.862
Send and receive messages	38	3.7632	.43085	.186
Transfer the educational materials	38	3.0526	.80362	.646
Use different educational blogs for interaction	38	2.3947	1.02771	1.056
Overall, Use of Mobile-based Technology	**38**	**2.9013**	**.54348**	**.295**

The report of the respondents' level of competence in utilizing mobile-based technology activities showed that the students believe that they are competent in the six categories. Specifically, the students are competent in addressing problems in using the internet, in addressing the threats or effects of computer technologies, engaging in leisure activities, making live calls, organizing the calendar of activities, and transferring educational materials.

However, respondents also believe that they were nearing competent only in using the following mobile-based technology, namely: creating blogs on social media, handling operating systems at the level of the system administration, and using different educational blogs. More importantly, respondents reported that they were very competent in accessing social media, calling friends, clients, classmates, etc., and sending and receiving messages.

Lastly, the overall assessment of use mobile-based technology by respondents is reported as competent, a 3 out of 4 on the Likert scale. It indicates that the incoming freshmen are ready for OLDE but may still need some interventions to ensure their success.

Table 13. Respondents' Activities Using Internet-based Technology

Activities	N	Mean	Std. Deviation	Variance
Access e-books	38	2.5789	.91921	.845
Attend Web conference	38	1.8947	.92384	.853
Buy and sell products/services	38	2.7632	.91339	.834
Check and send emails w/ attachments	38	2.9474	.76925	.592
Communicate online via email, messenger, etc.	38	3.6842	.47107	.222
Conduct an internet search for data	38	3.2368	.71411	.510
Conduct money transactions online	38	2.1579	.97333	.947
Dedicate 4-6 hours per week for an online course	38	2.1842	.98242	.965
Download audios, videos, pictures and graphs	38	3.3421	.78072	.610
Download computer programs	38	2.7368	.82803	.686
Download plug-ins for the computer	38	2.5000	.97952	.959
Download reports, assignments , course materials, presentations	38	3.3421	.70811	.501
Express emotions through forums, blogs, messaging, etc. online	38	3.2105	.84335	.711
Get the same value of education from an online course	38	2.5263	.76182	.580
Have a reliable device and internet service to use for an online course	38	2.6316	.85174	.725
Have lower education cost	38	2.2895	.61106	.373
Join chats on social media	38	3.0789	.91183	.831
Knowledge and skills of how to manage software for online learning	38	2.9737	.85383	.729
Learn new skills for an online course	38	2.8684	.84377	.712
No obligation for everyday lecture attendance	38	2.2105	.77661	.603
Opportunity to start studies anytime	38	2.8158	.89610	.803
Perform the functions MS Word, MS Excel, and MS PowerPoint)	38	3.4474	.72400	.524
Post and manage blogs	38	2.5526	.97807	.957
Post questions in online discussions	38	2.4737	.95115	.905
Read information from Websites, online news & comments	38	3.0526	.83658	.700
Use electronic library in my self-study	38	2.5000	.95153	.905
Use online tools to effectively communicate with others	38	3.1579	.88612	.785
Use the internet to find or gather info for online learning	38	3.2895	.69391	.482
Overall, Respondents' Use of Internet-based Technology	**38**	**2.8017**	**.46815**	**.219**

In terms of using internet-based technology in their activities, the results show that respondents are nearing competent in the four activities, namely: (1) attending web conferences, (2) conducting

money transactions online, (3) dedicating 4-6 hours a week for online courses, and (4) discovering ways to lower education cost.

Moreover, results also show that respondents believe they were competent in 21 activities where they utilize internet-based technology, namely: accessing e-books, buying and selling products/ services, checking and sending emails with attachments, conducting an internet search for data, downloading audios, videos, pictures, and graphs, downloading computer programs, downloading plug-ins for the computer, downloading reports, assignments, course materials, etc., expressing emotions, getting the value of education from the online course, joining chats on social media, managing software for online learning, learning new skills for online courses, performing the Microsoft Office functions (Word, Excel, PowerPoint), reading information from websites, etc., using an electronic library, using online tools, and using the internet for online learning.

More importantly, the respondents rated themselves as competent overall in the use of internet-based technology, a 3 of 4 on the Likert scale. This indicates that the incoming freshmen are ready for OLDE but may still need some interventions to ensure their success.

Table 14. Respondents' Self-directed Learning & Control

Self-directed Learning & Control Elements	N	Mean	Std. Deviation	Variance
Being organized	36	2.8056	.85589	.733
Being patient	38	2.9211	.81809	.669
Combine work and studies	38	2.9474	.73328	.538
Direct my own learning progress	38	2.9737	.63616	.405
Distracted by other online activities when learning online	38	2.6842	.93304	.871
Higher expectations for my learning performance	38	2.5789	.68306	.467
Improve from my mistakes	38	3.0263	.67731	.459
Manage time well	38	3.0263	.78798	.621
Motivated to learn	38	3.3947	.67941	.462
Not quit even when things get difficult	38	3.2105	.74100	.549
Open to new ideas	38	3.5263	.55687	.310
Preferring an immediate answer to class-related questions	38	2.8684	.70408	.496
Preferring to complete course work using a computer	38	3.7105	6.57147	43.184
Preferring to hear/listen to an instructor	38	3.2368	.71411	.510
Preferring to read course materials from a computer screen	38	2.7895	.74100	.549
Preferring to read course materials in printed from	38	3.1579	.67888	.461
Receive constructive feedback	38	2.6053	.63839	.408
Repeat the online instructional materials on the basis of my needs	38	2.7368	.64449	.415
Seek assistance when facing learning problems	38	2.8947	.83146	.691
Self-disciplined who gets things done on time	38	3.0000	.80539	.649

To be continued..

From Previous page... .(Table 14, page 63)

Self-motivated	38	3.3421	.66886	.447
Set up my learning goals	38	3.2368	.78617	.618
Share my ideas to others	38	3.1579	.67888	.461
Study according to individual plan	38	2.9211	.85049	.723
Study independently using electronic resources	38	2.7895	.74100	.549
Task-oriented	38	2.8947	.83146	.691
Think through a problem before answering	38	3.1579	.71759	.515
Think through a problem before asking for help	38	3.1316	.74148	.550
Turn in assignments in early	38	3.0263	.75290	.567
Understand technology	38	3.2895	.56511	.319
Willing to ask my classmates and instructors questions	38	3.1053	.64889	.421
Willing to ask questions via technology	38	2.9211	.67310	.453
Willing to complete assignments prior to the due date	38	3.1579	.71759	.515
Work in a group	38	2.9211	.67310	.453
Work independently	38	2.8947	.68928	.475
Working on career development	38	2.6579	.81461	.664
Overall, Self-directed Learning & Control	**38**	**3.0212**	**.52884**	**.280**

The report on self-directed learning and control shows that of the 36 aspects which compose the construct self-directed learning & control of open and distance education readiness, respondents believe they often encounter situations that make them engage in self-directed learning and control. Particularly: being organized, being patient, combining work and studies, directing own learning progress, managing distractions, gaining higher expectations, improving from mistakes, managing time well, motivating self to learn, preferring immediate answers to class-related questions, preferring to hear/listen, preferring to read course materials via computer screen, and reading course materials in printed form, receiving constructive feedback, repeating online instructional materials, seeing assistance, having self-discipline, being self-motivated, setting up learning goals, sharing ideas, studying according to plan, studying independently, being task-oriented, thinking through a problem before answering, thinking through a problem before asking help, turning in assignments early, understanding technology, willing to ask questions with classmates and instructors, willing to ask questions via technology, willing to complete assignments prior to due date, working in a group, working independently, and working on career development. However, respondents reported being always engaged in terms of being open to new ideas and preferring to complete course work using a computer.

Finally, the overall assessment of respondents' self-directed learning and control is reported to be often, 3 out of 4 on the Likert scale. This indicates that the incoming freshmen are ready for OLDE but may still need some interventions to ensure their success.

Table 15. Respondents' Overall Attitudes towards E-learning

Aspects of Students' Attitudes	N	Mean	Std. Deviation	Variance
E-learning environment needs advanced technical knowledge	38	2.8421	.63783	.407
E-learning is efficient as a learning method	38	2.4211	.68306	.467
Having courses on the internet makes learning more efficient	38	2.8158	.72987	.533
I am interested in studying some courses that utilize e-learning	38	2.7105	.86705	.752
I am positive about e-learning	38	2.7368	.82803	.686
I intend to use e-learning tools during the semester, if available	38	2.5000	.72597	.527
I think that e-learning promotes my learning experiences	37	2.5135	.76817	.590
I would prefer to have some courses on the internet rather than in the classroom	38	2.1579	.85507	.731
Online learning is a favorable alternative to the pen-paper based systems	38	2.3684	.75053	.563
Overall, I prefer e-learning and I believe that it is better than traditional method of learning	38	2.3158	.87318	.762
Overall, Students' Attitudes toward E-learning	**38**	**2.5371**	**.54174**	**.293**

In terms of overall attitudes towards e-learning, the results show that among the indicators (10), there were six which were assessed to be indulged favorably into by the respondents, specifically: Advanced technical knowledge, more efficient learning through the internet, interest in studying through e-learning, being positive about e-learning, the intent to use e-learning tools, and the promotion of learning experiences through e-learning.

However, four indicators are sometimes engaged in by the respondents only, which seem to indicate that these are only favorable to a little extent to e-learning. These are: e-learning is efficient as a learning method, preference for some courses via the internet, online learning as a favorable alternative, and e-learning as better than traditional methods.

Finally, the report shows that overall; the respondents believe that they often have attitudes that are favorable to a moderate extent towards e-learning, a 3 of 4 on the Likert scale. This indicates that the incoming freshmen are ready for OLDE but may still need some interventions to ensure their success.

The Significant Correlation between Selected Profile and Online & Distance Education Readiness Variables

Table 16. Correlation Between the Respondents' Access to the Internet Inside the University and Self-directed Learning & Control

		Free Wi-Fi	Cyber Café	Load Data	Comp Lab	Cable Net	Overall, Access Within
SLLC1. Being organized	Pearson Correlation	.230	-.096	-.375*	-.092	.095	-.044
	Sig. (2-tailed)	.185	.581	.024	.593	.581	.800
	N	35	35	36	36	36	36
SLLC5. Not Distracted	Pearson Correlation	-.265	-.148	-.152	.028	-.330*	-.301
	Sig. (2-tailed)	.112	.381	.362	.868	.043	.067
	N	37	37	38	38	38	38
SLLC8. Manage time	Pearson Correlation	.287	.379*	-.247	-.055	.016	.118
	Sig. (2-tailed)	.085	.021	.134	.743	.925	.481
	N	37	37	38	38	38	38
SLLC13. Course work using computer	Pearson Correlation	-.107	.372*	.089	.217	-.131	.110
	Sig. (2-tailed)	.527	.023	.595	.191	.431	.512
	N	37	37	38	38	38	38
SLLC14. Hear/listen to instructor	Pearson Correlation	.021	.215	-.174	-.085	-.329*	-.139
	Sig. (2-tailed)	.903	.201	.297	.611	.043	.406
	N	37	37	38	38	38	38
SLLC16. Read printed materials	Pearson Correlation	-.087	-.077	-.418**	-.262	-.262	-.348*
	Sig. (2-tailed)	.607	.649	.009	.112	.112	.032
	N	37	37	38	38	38	38
SLLC18. Repeat online instructional materials	Pearson Correlation	.168	.037	-.385*	-.222	.052	-.102
	Sig. (2-tailed)	.320	.829	.017	.180	.758	.541
	N	37	37	38	38	38	38
SLLC31. Willingness to ask questions	Pearson Correlation	-.135	-.019	-.109	-.395*	-.118	-.268
	Sig. (2-tailed)	.425	.911	.514	.014	.481	.104
	N	37	37	38	38	38	38
SLLC35. Work independently	Pearson Correlation	-.079	.081	-.051	-.047	-.347*	-.179
	Sig. (2-tailed)	.641	.633	.759	.778	.033	.282
	N	37	37	38	38	38	38
SLLC Mean (Total)	Pearson Correlation	-.020	.264	-.157	-.079	-.134	-.063
	Sig. (2-tailed)	.905	.115	.346	.637	.423	.709
	N	37	37	38	38	38	38

**. Correlation is significant at the 0.05 level (2-tailed).*

The results gleaned from Table 16 shows that there is no significant correlation between students' access to the internet in the University overall and their self-directed learning and control overall. However, when tested for correlation at the level of each statement for both constructs, the following was found:

In terms of the test of correlation between access to the internet inside the University and self-directed learning and control of students, result showed that: (1) Being organized correlates negatively and significantly with the use of load data; (2) Not distracted correlates negatively and significantly with the use of cable internet; (3) Time management correlates positively and significantly with cyber café; (4) course work using computer correlates positively and significantly with cyber café; (5) hearing/listening to instructor correlates significantly and negatively with use of cable internet; (6) Reading printed materials correlates significantly and negatively to both use of load data and overall internet access inside the University; (7) Repeating online instructional materials correlates significantly and negatively to use of computer laboratories; (8) Willingness to ask questions correlates significantly and negatively to the use of computer laboratory; (9) Working independently correlates significantly and negatively with the use of cable internet.

Table 17. Correlation Between the Respondents' Access to the Internet Inside the University and Overall Attitudes Towards E-learning Readiness

		Free Wi-fi	**Cyber Café**	**Load Data**	**Comp Lab**	**Cable Net**	**Overall, Access Within**
OATEL2. E-learning is efficient	Pearson Correlation	-.024	-.170	-.363*	-.051	-.170	-.245
	Sig. (2-tailed)	.888	.316	.025	.762	.306	.138
	N	37	37	38	38	38	38
OATEL10. Prefer e-learning, it is better	Pearson Correlation	.023	.227	-.122	.348*	.171	.209
	Sig. (2-tailed)	.891	.178	.466	.032	.304	.208
	N	37	37	38	38	38	38
OATEL, Total	Pearson Correlation	-.078	.084	-.171	.048	.125	.004
	Sig. (2-tailed)	.648	.623	.304	.776	.454	.979
	N	37	37	38	38	38	38

**. Correlation is significant at the 0.05 level (2-tailed)*

Table 17 shows that in the overall results, there is no significant correlation between students' access to the internet inside the University and their attitudes towards e-learning readiness.

However, the details of the results gleaned from Table 17 also show that there are significant relationships between students' access to the internet inside the University and their overall attitudes towards e-learning readiness. In particular, there exists a significant and negative correlation between efficient e-learning (OATEL2) and access to the internet via load data; and a significant positive correlation between preference for e-learning for being better (OATEL10) and utilization of the university's computer laboratories.

Table 18. Correlation Between the Access to the Internet Outside the University and Self-directed Learning & Control

		Free Wi -Fi	Cyber Café	Load Data	Comp Lab	Cable Net	Overall, Access Within
SLLC1. Being organized	Pearson Correlation	-.335*	-.229	-.211	.020	-.006	-.261
	Sig. (2-tailed)	.046	.179	.216	.911	.973	.124
	N	36	36	36	35	36	36
SLLC16. Read printed materials	Pearson Correlation	-.331*	-.165	-.253	-.161	-.150	-.387*
	Sig. (2-tailed)	.042	.323	.125	.342	.368	.017
	N	38	38	38	37	38	38
SLLC17. Receive constructive feedback	Pearson Correlation	-.147	.092	-.328*	-.288	-.170	-.299
	Sig. (2-tailed)	.378	.581	.045	.083	.308	.068
	N	38	38	38	37	38	38
SLLC, Total	Pearson Correlation	-.220	-.011	.001	.054	-.124	-.111
	Sig. (2-tailed)	.184	.947	.997	.752	.459	.507
	N	38	38	38	37	38	38

**. Correlation is significant at the 0.05 level (2-taied)*

Table 18 shows that there is no significant correlation between access to the internet outside the University and self-directed learning & control. However, the same table shows the presence of a significant correlation between respondents' access to the internet outside the University and their self-directed learning and self-control, as reflected in the specific statements.

In particular, being organized (SLLC1) is significant and negatively correlated to students' access to free Wi-Fi. Reading printed materials (SLLC16) is significant and negatively correlated to free Wi-Fi; SLLC16 has also been found to be significant and negatively correlated to the overall access to the internet outside the University. Finally, receiving constructive feedback (SLLC17) has been found to have a significant and negative correlation to students' use of load data when accessing the internet outside the University.

The results seem to indicate how students' learning attitudes may be negatively affected by internet access that they pay for (load data) and/or free access (free Wi-fi), pointing to a potential weakness in terms of time management from the client's end. However, since even the overall access is significant and negatively correlated to the obligation of students to read printed learning materials (since this is not going to be fully eliminated from any academic program), this result may be harnessed as an opportunity by the University to be able to develop and inculcate efficient time management skills in seminar sessions as a requirement for those prospective clients who would choose to access the forthcoming e-learning, online and distance education courses.

Table 19. Correlation Between the Respondents' Access to the Internet Outside the University and Overall Attitudes towards e-learning Readiness

		Free Wi -Fi	Cyber Café	Load Data	Comp Lab	Cable Net	Overall, Access Within
OATEL2. E-learning is efficient	Pearson Correlation	-.237	-.123	-.394*	-.056	-.331*	-.402*
	Sig. (2-tailed)	.151	.460	.014	.742	.043	.012
	N	38	38	38	37	38	38
OATEL4. Interested in courses utilizing e-learning	Pearson Correlation	-.164	-.049	-.073	.005	.049	-.096
	Sig. (2-tailed)	.326	.772	.662	.977	.768	.565
	N	38	38	38	37	38	38
OATEL8. Prefer courses on the internet	Pearson Correlation	.049	-.131	-.076	.418*	-.079	.014
	Sig. (2-tailed)	.771	.434	.648	.010	.638	.934
	N	38	38	38	37	38	38
SLLC, Total	Pearson Correlation	-.138	-.022	-.117	.200	-.078	-.078
	Sig. (2-tailed)	.408	.898	.486	.236	.639	.642
	N	38	38	38	37	38	38

*. *Correlation is significant at the 0.05 level (2-tailed)*

Table 19 shows that there is no significant correlation between respondents' access to the internet overall and their attitudes towards e-learning overall. However, Table 19 also shows that results of the test of correlation between specific statements of the respondents' access to the internet outside the University and the specific statements of the overall attitudes towards e-learning readiness yielded significant relationships.

For instance:

1. E-learning efficiency (OATEL2) is found to have a significant and negative correlation to the use of load data; There is a significant and positive correlation between OATEL2 and the access to Cable Internet outside the University, and there is a significant and positive correlation of OATEL2 on the overall internet access outside the University; and
2. The preference for courses on the internet (OATEL8) is significantly and positively correlated to the use of the University's computer laboratories.

Table 20. Correlation Between the Respondents' Offline Activities and Self-directed Learning & Control

		Offline Act1	Offline Act2	Offline Act3	Offline Act4	Offline Act5	Offline Act6	Offline Act8	Offline Act9	Offline Act10	Offline Act11	Offline Act12	Offline Act13	Offline Act14	Offline Act15	Offline Act16	Offline Act17	Offline Act21	Overall Offline
SLLC5. Not distracted when learning online.	Pearson Correlation	.156	.451**	.369*	.341*	.145	.455**	-.158	-.062	.242	.376*	.359*	.095	.377*	.560**	.367*	-.121	.261	.284
	Sig. (2-tailed)	.350	.004	.022	.036	.384	.004	.345	.711	.143	.020	.027	.569	.020	.000	.023	.471	.129	.084
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
SLLC11. Open to new ideas	Pearson Correlation	-.008	-.063	.201	.386*	.365*	.420**	.132	.195	.369*	.305	.267	.323*	.371*	.445**	.397*	.234	.377*	.434**
	Sig. (2-tailed)	.960	.707	.226	.017	.024	.009	.429	.241	.022	.063	.105	.048	.022	.005	.014	.157	.025	.006
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
SLLC12. Immediate answer to questions	Pearson Correlation	.350*	.249	.284	.227	.353*	.442**	-.157	-.039	.237	.312	.344*	.406*	.436**	.379*	.362*	.085	.115	.313
	Sig. (2-tailed)	.031	.131	.084	.170	.030	.005	.348	.818	.152	.057	.035	.011	.006	.019	.026	.611	.509	.056
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
SLLC20. Self-disciplined, gets things done	Pearson Correlation	.332*	.049	.126	.245	.343*	.418**	.091	.088	.094	.208	.277	.306	.328*	.387*	.342*	.354*	.132	.358*
	Sig. (2-tailed)	.041	.772	.452	.138	.035	.009	.586	.598	.574	.210	.092	.062	.044	.016	.035	.029	.448	.027
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
SLLC29. Turn in assignments early	Pearson Correlation	.290	.318	.216	.438**	.301	.355*	.049	.168	-.054	.309	.321*	.341*	.299	.260	.317	.363*	.348*	.397*
	Sig. (2-tailed)	.077	.052	.193	.006	.067	.029	.771	.314	.746	.059	.049	.036	.068	.115	.053	.025	.041	.014
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
SLLC30. Understand technology	Pearson Correlation	.224	.150	.178	.308	.418**	.382*	-.065	.068	.210	.228	.296	.423**	.515**	.382*	.435**	.170	.228	.391*
	Sig. (2-tailed)	.176	.370	.286	.060	.009	.018	.698	.686	.205	.168	.071	.008	.001	.018	.006	.308	.188	.015
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
SLLC31. Willing to ask questions	Pearson Correlation	.246	.146	.274	.360*	.332*	.507**	-.057	.012	.099	.272	.402*	.444**	.517**	.407*	.514**	.234	.198	.433**
	Sig. (2-tailed)	.136	.381	.096	.026	.042	.001	.735	.945	.556	.099	.012	.005	.001	.011	.001	.158	.254	.007
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
Overall, SLLCR	Pearson Correlation	.243	.076	.256	.338*	.437**	.409*	-.170	-.073	.055	.198	.363*	.364*	.312	.415**	.370*	.220	.191	.310
	Sig. (2-tailed)	.141	.649	.120	.038	.006	.011	.308	.664	.742	.233	.025	.025	.057	.010	.022	.185	.273	.058
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38

**. Correlation is significant at the 0.05 level (2-taied); **. Correlation is significant at the 0.01 level (2-taied)*

The results are shown in Table 20 to report that overall, there are no significant correlation between the students' self-directed learning and control and utilization of computer-based technologies (offline). However, the results also confirm the existence of significant relationships between respondents' specific computer-based offline activities and their specific self-directed learning & control readiness. The results manifest the following correlations:

1. A very significant and positive correlation between not being distracted when learning online (SLLC5) and Offline Act2; A significant positive correlation exists between SLLC5 and Offline Act3; A significant positive correlation exists between SLLC5 and Offline Act4; A very significant and positive correlation exists between SLLC5 and Offline Act6; A significant positive correlation exists between SLLC5 and Offline Act11; A significant positive correlation exists between SLLC5 and Offline Act12; A significant positive correlation exists between SLLC5 and Offline Act14; A very significant positive correlation exists between SLLC5 and Offline Act15; and, a significant positive correlation exists between SLLC5 and Offline Act 16.
2. A significant and positive correlation between being open to new ideas (SLLC11) and Offline Act4; A significant and positive correlation between SLLC11 and Offline Act5; A very significant and positive correlation between SLLC11 and Offline Act10; A significant and positive correlation between SLLC 11 and Offline Act13; A significant and positive correlation between SLLC 11 and Offline Act14; A very significant and positive correlation between SLLC 11 and Offline Act15; A significant and positive correlation between SLLC 11 and Offline Act16; A significant and positive correlation between SLLC 11 and Offline Act21; A significant and positive correlation between SLLC 11 and Offline Act21; and a very positive and significant correlation between SLLC 11 and Overall use of offline computer-based technologies.
3. A significant and positive correlation between immediately answering questions (SLLC 12) and Offline Act1; A significant and positive correlation between SLLC 12 and Offline Act5; A significant and positive correlation between SLLC 12 and Offline Act12; A significant and positive correlation between SLLC12 and Offline Act13; A very significant and positive correlation between SLLLC12 and Offline Act14; A significant and positive correlation between SLLC12 and Offline Act15; A significant and positive correlation between SLLC12 and Offline Act16.
4. A significant and positive correlation between being self-disciplined, getting things done (SSLC20) and Offline Act1; A significant and positive correlation between SLLC20 and Offline Act5; A very significant and positive correlation between SLLC20 and Offline Act6; A significant and positive correlation between SLLC20 and Offline Act14; A significant and positive relationship between SLLC20 and Offline Act 15; A significant and positive correlation between SLLC20 and Offline Act16; A significant and positive relationship between SLLC18 and Offline Act17; and a significant and positive relationship between SLLC20 and Overall use of offline computer-based technologies.
5. A very significant and positive correlation between turning in assignments early (SLLC29) and Offline Act4; A significant and positive correlation between SLLC29 and Offline Act6; A significant and positive correlation between SLLC29 and Offline Act12; A significant and positive relationship between SLLC29 and Offline Act13; A significant and positive relationship between SLLC 29 and Offline Act17; A significant and positive correlation between SLLC29 and Offline Act21; and a significant and positive correlation between SLLC29 and Overall use of computer-based technologies offline (Overall Offline).
6. A very significant and positive correlation between understanding technology (SLLC30) and Offline Act5; A significant and positive correlation between SLLC30 and Offline Act6. A very significant and positive correlation between SLLC30 and Offline Act13; A very significant and positive correlation between SLLC30 and Offline Act14; A significant and positive correlation

between SLLC30 and Offline Act15; A very significant and positive correlation between SLLC30 and Offline Act16; and a significant and positive correlation between SLLC30 and Overall use of computer-based technologies offline (Overall Offline).

7. A significant and positive correlation between willingness to ask questions (SLLC31) and Offline Act4; A significant and positive correlation between SLLC31 and Offline Act5; A very significant and positive correlation between SLLC31 and Offline Act6; A significant and positive correlation between SLLC31 and Offline Act12; a very significant and positive correlation between SLLC31 and Offline Act13; a very significant and positive correlation between SLLC31 and Offline Act14; A significant and positive correlation between SLLC31 and Offline Act15; A very significant and positive correlation between SLLC31 and Offline Act16; and a very significant and positive correlation between SLC31 and Overall use of computer-based technology offline (Overall Offline).
8. A significant and positive correlation between the overall, SLLCR and Offline Act4; A very significant and positive correlation between Overall SLLCR and Offline Act5; A significant and positive correlation exists between Overall SLLCR and Offline Act6; A significant and positive correlation between Overall SLLCR and Offline Act12; A significant and positive correlation exists between Overall, SLLCR, and Offline Act 13; A very significant and positive correlation exists between Overall, SLLCR and Offline Act15; and A significant and positive correlation exists between Overall, SLLCR and Offline Act16.

Table 21. Correlation Between the Respondents' Offline Activities and Overall Attitudes towards e-learning

		Offline Act1	Offline Act4	Offline Act5	Offline Act6	Offline Act7	Offline Act9	Offline Act10	Offline Act11	Offline Act12	Offline Act13	Offline Act15	Offline Act16	Offline Act17	Offline Act18	Offline Act20	Offline Act21	Offline Total
OATEL1. Advanced technical knowledge.	Pearson Correlation	.324*	.559**	.323*	.544**	.444**	.428**	.445**	.308	.350*	.528**	.437**	.458**	.381*	.491**	.293	.467**	.645**
	Sig. (2-tailed)	.047	.000	.048	.000	.005	.007	.005	.060	.031	.001	.006	.004	.018	.002	.074	.005	.000
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
OATEL3. Internet courses more efficient	Pearson Correlation	.228	.397*	.413**	.340*	.330*	.201	.133	.237	.230	.489**	.256	.215	.310	.011	-.030	.357*	.394*
	Sig. (2-tailed)	.168	.014	.010	.037	.043	.226	.427	.152	.166	.002	.121	.195	.058	.948	.856	.035	.014
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
OATEL4. Studying courses w/c utilize e-learning	Pearson Correlation	.162	.520**	.365*	.294	.423**	.407*	.301	.238	.236	.363*	.390*	.233	.350*	.204	.186	.536**	.492**
	Sig. (2-tailed)	.330	.001	.024	.073	.008	.011	.067	.151	.153	.025	.016	.159	.031	.220	.265	.001	.002
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
OATEL5. Positive about e-learning	Pearson Correlation	.164	.427**	.266	.184	.397*	.321*	.265	.176	.225	.244	.268	.324*	.351*	.327*	.234	.477**	.443**
	Sig. (2-tailed)	.324	.008	.106	.269	.014	.050	.107	.291	.175	.139	.103	.047	.030	.045	.156	.004	.005
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38
Overall, OATEL	Pearson Correlation	.333*	.433**	.279	.306	.437**	.438**	.265	.175	.191	.340*	.326*	.247	.395*	.231	.306	.544**	.502**
	Sig. (2-tailed)	.041	.007	.089	.062	.006	.006	.107	.292	.250	.037	.046	.134	.014	.163	.061	.001	.001
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	35	38

**. Correlation is significant at the 0.05 level (2-taied); **. Correlation is significant at the 0.01 level (2-taied)*

The report in Table 21 shows that overall, there is a very significant and positive correlation between respondents' activities on offline computer-based technologies and their attitudes towards e-learning. Moreover, the detailed results in Table 21 show that there are significant relationships between respondents' offline computer-based activities and their attitudes towards e-learning. The detailed results show as follows:

1. A significant and positive correlation between advanced technical knowledge (OATEL1) and Offline Act1; a Very significant and positive correlation between OATEL1 and Offline Act4; Significant and positive correlation between OATEL1 and Offline Act5; a Very significant and positive correlation between OATEL1 and Offline Act6; a Very significant and positive correlation between OATEL1 and Offline Act7; a Very significant and positive correlation between OATEL1 and Offline Act9; a Very significant and positive correlation between OATEL1 and Offline Act10; Significant and positive correlation between OATEL1 and Offline Act12; a Very significant and positive correlation between OATEL1 and Offline Act13; a Very significant and positive correlation between OATEL1 and Offline Act15; a Very significant and positive correlation between OATEL1 and Offline Act16; Significant and positive correlation between OATEL1 and Offline Act17; a Very significant and positive correlation between OATEL1 and Offline Act18; and very significant and positive correlation between OATEL1 and the overall computer-based activities technologies when offline (Offline Total).
2. A significant and positive correlation between more efficient internet courses (OATEL3) and Offline Act4; A very significant and positive correlation between 33OATEL3 and Offline Act5; A very significant and positive correlation between OATEL3 and Offline Act6; A significant and positive correlation between OATEL3 and Offline Act7; A significant and positive correlation between OATEL3 and Offline and Offline Act21; A significant and positive correlation between OATEL 3 and Offline Total.
3. A very significant and positive correlation between studying courses which utilize e-learning (OATEL4) and Offline Act4; A significant and positive correlation between OATEL4 and Offline Act5; A very significant and positive correlation between OATEL 4 and Offline Act7; A significant and positive correlation between OATEL4 and Offline Act9; A significant and positive correlation between OATEL4 and Offline Act13; A significant and positive correlation between OATEL4 and Offline Act15; A significant and positive correlation between OATEL4 and Offline Act17; A very significant and positive correlation between OATEL4 and Offline Act 21; and a very significant and positive correlation between OATEL4 and Offline Total.
4. A very significant and positive correlation between being positive about e-learning (OATEL5) and Offline Act4; A significant and positive correlation between OATEL5 and Offline Act7; A significant and positive correlation between OATEL5 and Offline Act9; A significant and positive correlation between OATEL5 and Offline Act16; A significant and positive correlation between OATEL5 and Offline Act17; A significant and positive correlation between OATEL5 and Offline Act18; A very significant and positive correlation between OATEL5 and Offline Act21; and a very significant and positive correlation between OATEL5 and Offline Total.
5. A significant and positive correlation between Overall OATEL and Offline Act1; A very significant and positive correlation between Overall, OATEL and Offline Act4; A very significant and positive correlation between Overall, OATEL and Offline Act7; A very significant and positive correlation between Overall, AOATEL and Offline Act9; A significant and positive correlation between Overall, OATEL and Offline Act13; A significant and positive correlation between Overall, OATEL and Offline Act15; A very significant and positive correlation between Overall, OATEL and Offline Act21; and a very significant and positive correlation between Overall, OATEL and Offline Total.

Table 22. Correlation Between the Respondents' Mobile Internet Activities and Self-directed Learning and Control

		Mobile Act1	Mobile Act2	Mobile Act3	Mobile Act4	Mobile Act5	Mobile Act6	Mobile Act7	Mobile Act8	Mobile Act9	Mobile Act10	Mobile Act11	Mobile Act12	Mobile Total
SLLC11. Open to new ideas	Pearson Correlation	.070	.324*	.347*	.165	.154	.053	.155	.067	.264	-.030	.480**	.336*	.318
	Sig. (2-tailed)	.675	.047	.033	.321	.356	.753	.354	.688	.109	.860	.002	.039	.052
	N	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC24. Study according to individual plan	Pearson Correlation	.053	.225	.366*	.201	-.067	-.123	.096	.349*	.371*	.021	.283	.098	.246
	Sig. (2-tailed)	.751	.175	.024	.227	.689	.462	.568	.032	.022	.899	.085	.556	.137
	N	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC25. Study independently using e-resources	Pearson Correlation	.204	.323*	.415**	.212	.156	.126	.070	.414**	.298	.094	.201	.254	.361*
	Sig. (2-tailed)	.218	.048	.010	.202	.351	.451	.675	.010	.069	.576	.227	.124	.026
	N	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC31. Ask questions	Pearson Correlation	.241	.344*	.422**	.396*	.035	.029	.008	.231	.413**	-.005	.352*	.058	.318
	Sig. (2-tailed)	.145	.035	.008	.014	.836	.861	.964	.162	.010	.976	.030	.731	.052
	N	38	38	38	38	38	38	38	38	38	38	38	38	38
Overall, SLLC	Pearson Correlation	.151	.240	.349*	.287	.001	.039	-.012	.065	.261	.105	.195	.129	.220
	Sig. (2-tailed)	.366	.147	.032	.080	.996	.818	.945	.699	.114	.530	.240	.439	.185
	N	38	38	38	38	38	38	38	38	38	38	38	38	38

*****. *Correlation is significant at the 0.05 level (2-tailed);* ******. *Correlation is significant at the 0.01 level (2-tailed)*

The report of results in Table 22 shows that overall, there is no significant correlation between the respondents' mobile activities and their self-directed learning and control. However, the results in Table 22 show the existence of significant relationships between respondents' mobile internet activities and their self-directed learning and control. These include:

The report of results in Table 22 shows that overall, there is no significant correlation between the respondents' mobile activities and their self-directed learning and control. However, the results in Table 22 show the existence of significant relationships between respondents' mobile internet activities and their self-directed learning and control. These include:

1. A significant and positive correlation between being open to new ideas (SLLC11) and Mobile Act2; a significant and positive relationship between SLLC11 and Mobile Act 3; a very significant and positive relationship between SLLC11 and Mobile Act11; and a significant and positive correlation between SLLC11 and Mobile Act12.
2. A significant and positive correlation between studying according to plan (SLLC24) and Mobile Act3; A significant and positive correlation between SLLC24 and Mobile Act8; and a significant and positive correlation between SLLC24 and Mobile Act9.
3. A significant and positive correlation between studying independently using e-resources (SLLC25) and Mobile Act2; A very significant and positive correlation between SLLC25 and Mobile Act3; A very significant and positive correlation between SLLC25 and Mobile Act8; and a significant and positive correlation between SLLC25 and Mobile Total.
4. A significant and positive correlation between asking questions (SLLC31) AND Mobile Act2; a very significant and positive correlation between SLLC31 and Mobile Act3; A significant and positive correlation between SLLC31 and Mobile Act4; A significant and positive correlation between SLLC31 and Mobile Act9; and a significant and positive correlation between SLLC31 and Mobile Act11.

Table 23. Correlation Between the Respondents' Mobile Internet Activity and Overall Attitudes Towards E-learning

		Mobile Act1	Mobile Act2	Mobile Act3	Mobile Act4	Mobile Act6	Mobile Act7	Mobile Act8	Mobile Act9	Mobile Act10	Mobile Act11	Mobile Total
OATEL1. Advanced technical knowledge	Pearson Correlation	.069	.355*	.250	.243	.341*	.352*	.351*	.305	.254	.544**	.500**
	Sig. (2-tailed)	.681	.029	.130	.142	.036	.030	.031	.063	.124	.000	.001
	N	38	38	38	38	38	38	38	38	38	38	38
OATEL3. Courses in internet make learning efficient	Pearson Correlation	.229	.469**	.491**	.392*	.011	.274	.418**	.384*	.201	.340*	.470**
	Sig. (2-tailed)	.166	.003	.002	.015	.949	.096	.009	.017	.226	.037	.003
	N	38	38	38	38	38	38	38	38	38	38	38
OATEL4. Interested in studying via e-learning	Pearson Correlation	.387*	.533**	.385*	.421**	.252	.154	.422**	.249	.390*	.372*	.502**
	Sig. (2-tailed)	.016	.001	.017	.009	.127	.357	.008	.131	.015	.022	.001
	N	38	38	38	38	38	38	38	38	38	38	38
Overall, OATEL	Pearson Correlation	.245	.396*	.236	.300	.136	.160	.325*	.105	.257	.324*	.359*
	Sig. (2-tailed)	.138	.014	.154	.068	.415	.338	.046	.528	.119	.047	.027
	N	38	38	38	38	38	38	38	38	38	38	38

*. *Correlation is significant at the 0.05 level (2-taied);* **. *Correlation is significant at the 0.01 level (2-taied)*

The results presented in Table 23 show that overall; there exists a significant and positive correlation between the respondents' mobile internet activity and their attitudes towards e-learning. Furthermore, the report contained in Table 23 shows the existence of significant relationships between respondents' mobile internet activities and their overall attitudes towards e-learning. The following are the most frequent, among others:

1. A significant and positive correlation between Advanced technical knowledge (OATEL1) and Mobile Act2; A significant and positive relationship between OATEL1 and Mobile Act6; A significant and positive relationship between OATEL1 and Mobile Act7; A significant and positive correlation between OATEL 1 and Mobile8; A very significant and positive relationship between OATEL1 and Mobile Act11; and a very significant and positive relationship between OATEL1 and Mobile Total.
2. A very significant and positive relationship between internet-based courses making learning efficient (OATEL3) and Mobile Act2; A very significant and positive correlation between OATEL3 and Mobile Act3; and a significant and positive correlation between OATEL3 and Mobile Act4; A very significant and positive correlation between OATEL3 and Mobile Act8; A significant and positive correlation between OATEL 3 and Mobile Act10; A significant and positive correlation between OATEL3 and Mobile Act11; and a very significant and positive correlation between OATEL3 and Mobile Total.
3. A significant and positive correlation between being interested in studying via e-learning and Mobile Act1; A very significant and positive correlation between OATEL4 and Mobile Act2; A significant and positive correlation between OATEL4 and Mobile Act3; A very significant and positive correlation between OATEL4 and Mobile Act4; A very significant and positive correlation between OATEL4 and Mobile Act8; A significant and positive correlation between OATEL4 and Mobile Act10; a significant and positive correlation between OATEL4 and Mobile Act11; and A very significant and positive correlation between OATEL4 and Mobile Total.
4. A significant and positive correlation between Overall, OATEL, and Mobile Act2; A significant and positive correlation between Overall, OATEL, and Mobile Act8; a significant and positive correlation between Overall, OATEL, and Mobile Act11; and a significant positive correlation between Overall, OATEL, and Mobile Total.

Table 24. Correlation Between the Respondents' Mobile Internet Activity and Overall Attitudes towards e-learning Readiness

		Internet Act1	Internet Act2	Internet Act3	Internet Act4	Internet Act5	Internet Act6	Internet Act7	Internet Act8	Internet Act9	Internet Act10	Internet Act11	Internet Act12	Internet Act13	Internet Act14	Internet Act15
SLLC1. Being organized	Pearson Correlation	.189	.407*	.221	.321	.133	.262	-.113	.343*	.044	.248	.333*	-.022	-.033	.159	.269
	Sig. (2-tailed)	.271	.014	.195	.056	.439	.122	.511	.041	.798	.145	.047	.900	.849	.353	.113
	N	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
SLLC5. Not distracted when learning online	Pearson Correlation	.440**	.023	.290	.428**	.320*	.156	.146	-.023	.115	.379*	.089	.127	.190	.012	.088
	Sig. (2-tailed)	.006	.890	.077	.007	.050	.350	.383	.890	.491	.019	.596	.447	.254	.943	.601
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC11. Open to new ideas	Pearson Correlation	.286	.321*	.199	.256	.033	.018	.042	-.083	.010	.308	.347*	.148	.391*	.030	.078
	Sig. (2-tailed)	.081	.050	.232	.121	.846	.915	.802	.619	.953	.060	.033	.376	.015	.857	.642
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC21. Self-motivated	Pearson Correlation	.021	.279	.402*	.351*	.095	-.004	.081	.148	.132	.362*	.227	.203	.252	.274	.085
	Sig. (2-tailed)	.901	.090	.012	.031	.571	.979	.629	.374	.429	.025	.171	.222	.127	.097	.612
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC25. Study independently using electronic resources	Pearson Correlation	.184	.204	.563**	.359*	.114	.148	.235	.389*	.128	.348*	.298	.038	.116	.489**	.302
	Sig. (2-tailed)	.269	.220	.000	.027	.495	.376	.156	.016	.444	.032	.069	.821	.488	.002	.065
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC34. Work in a group	Pearson Correlation	.338*	.247	.189	.148	.175	.321*	.061	-.182	.001	.253	.102	.228	.363*	.031	-.146
	Sig. (2-tailed)	.038	.135	.257	.374	.293	.049	.717	.275	.994	.126	.540	.168	.025	.856	.380
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38

*. Correlation is significant at the 0.05 level (2-taied); **. Correlation is significant at the 0.01 level (2-taied)

The results in Table 24 show that overall; there is no significant correlation between the respondents' mobile internet activity and their attitudes towards e-learning. However, the same report from Table 24 contains significant relationships between the incoming students' mobile internet activities and their overall attitudes towards e-learning readiness. These include:

1. A significant and positive correlation between being organized (SLLC1) and Internet Act2; a significant and positive correlation between SLLC1 and Internet Act8; A significant and positive correlation between SLLC1 and Internet Act11.
2. A very significant and positive correlation between not being distracted (SLLC5) and Internet Act1; A very significant and positive correlation between SLLC5 and Internet Act4; A significant and positive correlation between SLLC5 and Internet Act5; A significant and positive correlation between SLLC5 and Internet Act10;
3. A significant and positive correlation between being open to new ideas (SLLC11) and Internet Act2; A significant and positive correlation between SLLC11 an Internet Act11; and a significant and positive correlation between SLLC11 and Internet Act13.
4. A significant and positive correlation between being self-motivated (SLLC21) and Internet Act3; A significant and positive correlation between SLLC21 and Internet Act4; A significant and positive correlation between SLLC21 and Internet Act10.
5. A very significant and positive correlation between studying independently using e-resources (SLLC25) and Internet Act3; A significant and positive correlation between SLLC25 and Internet Act4; A significant and positive correlation between SLLC25 and Internet Act10; and a very significant and positive correlation between SLLC25 and Internet Act14.
6. A significant and positive correlation between working in a group (SLLC34) and Internet Act1; A significant and positive correlation between SLLC34 Internet Act6; A significant and positive correlation between SLLC34 and Internet Act13.

Table 25. Correlation Between the Respondents' Internet Based Activities and Self-directed Learning & Control

		Internet Act16	Internet Act17	Internet Act18	Internet Act19	Internet Act20	Internet Act21	Internet Act22	Internet Act23	Internet Act24	Internet Act25	Internet Act26	Internet Act27	Internet Act28	Internet Total
SLLC2. Being patient	Pearson Correlation	.371*	.154	.152	.180	-.058	.127	.518**	.428**	.292	.441**	.226	-.057	.089	.323*
	Sig. (2-tailed)	.022	.358	.363	.279	.728	.447	.001	.007	.075	.006	.173	.734	.595	.048
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC3. Combine work and studies	Pearson Correlation	.457**	.370*	.257	.251	.067	.314	.300	.532**	.463**	.401*	.271	.138	.243	.427**
	Sig. (2-tailed)	.004	.022	.120	.129	.687	.055	.067	.001	.003	.013	.100	.409	.141	.007
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC9. Motivated to learn	Pearson Correlation	.433**	.210	.345*	.329*	.094	.345*	.236	.395*	.330*	.248	.272	-.061	.152	.286
	Sig. (2-tailed)	.007	.205	.034	.044	.573	.034	.154	.014	.043	.134	.099	.714	.361	.082
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC11. Open to new ideas	Pearson Correlation	.255	.395*	.087	.266	.299	.416**	.339*	.394*	.333*	.287	.153	.101	-.125	.367*
	Sig. (2-tailed)	.122	.014	.604	.106	.068	.009	.038	.014	.041	.081	.359	.547	.454	.024
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC18. Repeat the online materials	Pearson Correlation	.336*	.082	.184	.283	-.048	.288	.375*	.237	.165	.327*	.353*	.311	.175	.334*
	Sig. (2-tailed)	.039	.623	.270	.086	.773	.079	.020	.152	.323	.045	.030	.057	.293	.040
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC21. Self-motivated	Pearson Correlation	.412*	.309	.300	.321*	.118	.379*	.289	.323*	.333*	.257	.191	.089	.130	.407*
	Sig. (2-tailed)	.010	.059	.067	.049	.481	.019	.078	.048	.041	.120	.250	.596	.436	.011
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
SLLC36. Work on career development	Pearson Correlation	.313	.074	.220	.169	.031	.096	.175	.210	.389*	.265	.296	-.035	.036	.336*
	Sig. (2-tailed)	.056	.660	.185	.311	.851	.565	.294	.206	.016	.108	.071	.833	.828	.039
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Overall, SLLC	Pearson Correlation	.336*	.281	.222	.240	.000	.316	.369*	.330*	.351*	.271	.168	.052	.108	.353*
	Sig. (2-tailed)	.039	.087	.179	.146	1.000	.053	.023	.043	.031	.100	.313	.756	.520	.030
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38

**. Correlation is significant at the 0.05 level (2-taied); **. Correlation is significant at the 0.01 level (2-taied)*

The overall results in Table 25 show that there exists a significant and positive correlation between internet-based activities and the self-directed learning & control of the respondents. Moreover, the detailed results contained in Table 25 also show the existence of significant relationships between the respondents' specific internet-based activities and their specific self-directed learning. Specifically, these include:

1. A significant and positive correlation between being patient (SLLC2) and Internet Act16; A very significant and positive correlation between SLLC2 and Internet Act22; A very significant and positive correlation between SLLC2 and Internet Act23; A significant and positive correlation between SLLC2 and Internet Act24; a very significant and positive correlation between SLLC2 and Internet Act25; and a significant and positive correlation between SLLC2 and Internet Total.
2. A very significant and positive correlation between combining work and studies (SLLC3) and Internet Act16; A significant and positive correlation between SLLC3 and Internet Act17; a very significant and positive correlation between SLLC3 and Internet Act23; a very significant and positive correlation between SLLC3 and Internet Act24; a significant and positive correlation between SLLC3 and Internet Act25; A very significant and positive correlation between SLLC3 and Internet Total.
3. A very significant and positive correlation between being motivated to learn (SLLC9) and Internet Act16; A significant and positive correlation between SLLC9 and Intent Act18;A significant and positive correlation between SLLC9 and Internet Act19; A significant and positive correlation between SLLC9 and Internet Act21; a significant and positive correlation between SLLC9 and Internet Act23; A significant and positive correlation between SLLC9 and Internet Act24.
4. A significant and positive correlation between Repeating the online instructional materials (SLLC18) and Internet Act16; a significant and positive relationship between SLLC18 and Internet Act22; A significant and positive correlation between SLLC18 and Internet Act25; a significant and positive correlation between SLLC18 and Internet Act26; and a significant and positive correlation between SLLC18 and Internet Total.
5. A significant and positive correlation between being self-motivated (SLLC21) and Internet Act16; A significant and positive relationship between SLLC21 and Internet Act19; A significant and positive correlation between SLLC21 and Internet Act 21; a significant and positive relationship between SLLC21 and Internet Act23; a significant and positive correlation between SLLC21 and Internet Act24; and a significant and positive correlation between SLLC21 and Internet Total.
6. A significant and positive correlation between Overall, SLLC and Internet Act16, A significant and positive correlation between Overall SLLC and Internet Act22; A significant and positive correlation between Overall, SLLC and Internet Act23; A significant and positive correlation between Overall, SLLC and Internet Act24;and a significant and positive correlation between Overall, SLLC and Internet Total.

Table 26. Correlation Between the Respondents' Internet Based Activities and Overall Attitudes towards e-learning

		Internet Act16	Internet Act17	Internet Act18	Internet Act19	Internet Act20	Internet Act21	Internet Act22	Internet Act23	Internet Act24	Internet Act25	Internet Act26	Internet Act27	Internet Act28	Internet Total
OATEL1. Advanced technical knowledge	Pearson Correlation	.398*	.347*	.290	.312	.178	.421**	.391*	.317	.305	.269	.000	.380*	.350*	.568**
	Sig. (2-tailed)	.013	.033	.077	.057	.285	.009	.015	.053	.063	.102	1.000	.019	.031	.000
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
OATEL2. E-learning is efficient as a learning method	Pearson Correlation	.412*	.162	.112	.239	.134	.218	.374*	.330*	.267	.480**	.291	.244	.306	.365*
	Sig. (2-tailed)	.010	.331	.502	.148	.422	.188	.021	.043	.105	.002	.076	.139	.062	.024
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
OATEL4. I am interested in studying some courses that utilize e-learning	Pearson Correlation	.417**	.440**	.355*	.353*	.374*	.277	.427**	.353*	.466**	.282	.016	.131	.233	.563**
	Sig. (2-tailed)	.009	.006	.029	.030	.021	.092	.007	.030	.003	.086	.922	.431	.159	.000
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
OATEL5. I am positive about e-learning	Pearson Correlation	.368*	.386*	.181	.336*	.341*	.261	.337*	.318	.334*	.138	.034	.132	.230	.452**
	Sig. (2-tailed)	.023	.017	.277	.039	.036	.114	.039	.052	.040	.410	.838	.430	.164	.004
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Overall, OATEL	Pearson Correlation	.424**	.354*	.311	.430**	.354*	.309	.431**	.287	.337*	.234	.010	.212	.366*	.567**
	Sig. (2-tailed)	.008	.029	.057	.007	.029	.059	.007	.081	.038	.157	.952	.201	.024	.000
	N	38	38	38	38	38	38	38	38	38	38	38	38	38	38

**. Correlation is significant at the 0.05 level (2-taied); **. Correlation is significant at the 0.01 level (2-taied)*

Table 26 presents that overall; there exists a very significant and positive correlation between the respondents' internet-based activities and their attitudes towards e-learning. Furthermore, the detailed report made available by Table 26 show that there indeed are significant relationships present between the specific internet-based activities and specific respondents' attitudes toward e-learning readiness. These include, but are not limited to:

1. A significant and positive correlation between the need for advanced technical knowledge (OATEL1) and Internet Act16; A significant and positive correlation between OATEL1 and Internet Act17; A very significant and positive correlation between OATEL1 and Internet Act21; a significant and positive correlation between OATEL1 and Internet Act22; A significant and positive correlation between OATEL1 and Internet Act27; A significant and positive correlation between OATEL1 and Internet Act28; a very significant and positive correlation between OATEL1 and Internet Total.
2. A significant and positive correlation between believing that e-learning is efficient as a learning method (OATEL2) and Internet Act16; A significant and positive correlation between OATEL2 and Internet Act22; A significant and positive correlation between OATEL2 and Internet Act23; A very significant and positive correlation between OATEL2 and Internet Act25; and a significant and positive correlation between OATEL2 and Internet Total.
3. A very significant and positive correlation between the interest to study courses via e-learning (OATEL4) and Internet Act16; A very significant and positive correlation of OATEL4 and Internet Act17; A significant and positive correlation between OATEL4 and Internet Act18; A significant and positive correlation between OATEL4 and Internet Act19; a significant and positive correlation between OATEL4 and Internet Act20; a very significant and positive correlation between OATEL4 and Internet Act22; A significant and positive correlation between OATEL4 and Internet Act23; a very significant and positive correlation between OATEL4 and Internet Act24; and a very significant and positive correlation between OATEL4 and Internet Total.
4. A significant and positive correlation between being positive about e-learning (OATEL5) and Internet Act16; a significant and positive correlation between OATEL5 and Internet Act17; A significant and positive correlation between OATEL5 and Internet Act19; A significant and positive correlation between OATEL5 and Internet Act20; a significant and positive correlation between OATEL5 and Internet Act22; A significant and positive correlation between OATEL5 and Internet Act24; and a very significant and positive correlation between OATEL5 and Internet, Total.
5. There is a very significant and positive correlation between Overall, OATEL with Internet Act16; a significant and positive correlation between Overall, OATEL and Internet Act17; A very significant and positive correlation between Overall, OATEL and Internet Act19; A significant and positive correlation between Overall, OATEL and Internet Act20; a very significant and positive correlation between Overall, OATEL and Internet Act22; a significant and positive correlation between

Overall, OATEL and Internet Act24; a significant and positive correlation between Overall, OATEL and Internet Act28; and a very significant and positive correlation between Overall, OATEL and Internet Total.

Summary, Conclusions and Recommendations

Summary

1. Personal and Academic Profile of incoming freshmen students
   1.1 Sex. 13.20 percent were males and 86.80 percent were females;
   1.2 Year of birth. About 55.30 percent were born in the year 2001, while 44.70 percent were born in the year 2000;
   1.3 OLDE experience. About 47.40 percent had some experience in OLDE;
   1.4 Difficulty of OLDE experience. 50.00 percent said that OLDE is quite difficult while 43.80 percent thought it was quite easy;
   1.5 Kind of OLDE experience. 100.00 percent of the respondents said their experience with OLDE part of a subject or course in SHS;
   1.6 Utilization of OLDE competencies. 35.70 percent claimed that they used the competencies every now and then and/or most of the time, while 28.60 percent said they were only able to use it to a little extent; and
   1.7 Place of access. 85.70 percent who underwent the OLDE course said they did it at home.

2. Incoming Freshmen Students' Online and Distance Education Readiness
   2.1 Use of offline computer-based technologies is rated as competent, a 3 of 4 in the Likert scale;
   2.2 Use of mobile-based technologies is rated as competent, a 3 of 4 in the Likert scale;
   2.3 Use of internet-based technologies is rated as competent, a 3 of 4 in the Likert scale;
   2.4 Self-directed learning and control is rated as often, a 3 of 4 in the Likert scale; and
   2.5 Overall attitudes towards e-learning is rated as favorable, a 3 of 4 in the Likert scale.

3. Results of test of correlation between and among selected profile and online & distance education readiness variables
   3.1 There is no significant correlation between students' access to the internet inside the University overall and their self-directed learning and control overall. However, there exists significant correlation between the specific statements of students' access to the internet inside the University and the specific statements of self-directed learning and control;
   3.2 There is no significant correlation between students' access to the internet inside the University overall and their attitudes towards e-learning readiness overall. However, there exists significant correlation between the specific statements of students' access to the internet inside the University and the specific attitudes towards e-learning readiness.
   3.3 There is no significant correlation between the students' access to the internet outside the University overall and their self-directed learning & control overall. However, there exists significant correlation between the specific statements of the students' access to the internet outside the University and the self-directed learning & control.
   3.4 There is no significant correlation between students' access to the internet overall and their attitudes towards e-learning overall. However, there are significant correlations that exist between the specific statements of the students' access to the internet and the specific attitudes towards e-learning readiness.
   3.5 There is no significant correlation between students' self-directed learning and control overall and their utilization of computer-based technologies (offline) overall. However, there exists a significant correlation between the specific statements of self-directed learning & control and the utilization of computer-based technologies (offline).
   3.6 There exists a very significant and positive correlation between students' activities in

computer-based technologies (offline) and their attitudes towards learning overall. Moreover, there exists a significant correlation between the specific statements of computer-based technologies (offline) and students' attitudes toward learning.

3.7 There is no significant correlation between students' mobile activities overall and their self-directed learning & control overall. However, there exists significant correlation in the specific statements of students' mobile activities and self-directed learning and control.

3.8 There exists a significant and positive correlation between the students mobile internet activity overall and their attitudes towards e-learning overall. Moreover, significant correlation exists also in the specific statements of students' mobile internet activity and attitudes towards e-learning.

3.9 There is no significant correlation between students' mobile internet activity overall and their attitudes towards e-learning readiness overall. However, there exists significant correlation in the specific statements of students' mobile internet activities and their attitudes towards e-learning readiness.

3.10 Based on the overall results, there exists a significant and positive correlation between students' internet-based activities and their self-directed learning & control. Moreover, there exists significant correlation in the specific statements of students' internet-based activities and their self-directed learning & control.

3.11 There exists a very significant and positive correlation between the students' internet-based activities overall and their attitudes towards e-learning overall. Moreover, there are significant correlations that exist between the specific internet-based activities and students' attitudes toward e-learning readiness.

Conclusions

Based on the summary of findings, the following conclusions are drawn:

1. The incoming freshman CBE student is a graduating Accountancy, Business & Management (ABM) strand student from the NVSU Senior High School who is a female, born in the year 2001, with some experience in open learning and distance education, which is quite difficult, as part of their subject that they accessed from home, with the learned competencies being used most of the time and/or every now and then.
2. The incoming freshman student is competent in the use of offline computer-based technologies, competent in mobile-based technologies, and competent in internet-based technologies. She is often self-directed in learning & control, and has favorable overall attitude towards e-learning.
3. There exists no significant correlation between the following:
    - Students' access to the internet inside the University and their self-directed learning & control overall;
    - Students' access to the internet inside the University and their e-learning readiness overall;
    - Students' access to the internet outside the University and their self-directed learning & control overall;
    - Students' access to the internet and their attitudes towards e-learning overall;
    - Students' self-directed learning & control overall and their utilization of computer-based technologies (offline);
    - Students' mobile activities overall and their self-directed learning & control overall;
4. Based on the overall results, there exists significant relationships between the following:
    - A very significant and positive correlation between students' activities in computer-based technologies (offline) and their attitudes towards learning;

- A significant and positive correlation between students' internet-based activities and their self-directed learning & control.
- A very significant and positive correlation between the students' internet-based activities and their attitudes towards e-learning overall.

Recommendations

Based on the discussions and findings, the following recommendations are placed forward to the University's administration for their consideration:

1. That the University would continue to enhance its ICT capability, especially in terms of the needed resources and various infrastructure to improve the internet service delivery and related services for the incoming CBE freshmen students when they finally enter the undergraduate program of the University.
2. Based on the reported experiences of the respondents who were students in other SHS courses that have e-learning components, the University should set the direction towards shifting the delivery of some topics within the conventional courses across degree programs. The University should transition from the traditional face-to-face lecture to online or e-learning modalities but shall not exceed 25 percent of the total contact hours.
3. The shift to online delivery or e-learning modalities should be done on a staggered basis, to ensure the build-up of e-learning materials per course, within the framework of a University-wide Learning Management System (LMS).

Corollary to this, the University may create an LMS project team with members coming from across the cross-section of the organization, coordinated by a Secretariat. This means for instance that key personnel coming from offices and units under the Office of the Vice President for Academic Affairs, the Office of the Vice President for Finance and Administration, the Office of the Vice President for Research, Extension, and Training, and the Office of the Vice President for Planning and Information Systems should be activated for the shared responsibility and accountability to jumpstart the planning stage for the various sub-projects.

1. That the identified LMS project team members be designated to work on the LMS project proposal where the various needed physical, technical financial and human resources, including that for personnel selection, identification, orientation, and training-capacitating shall be packaged and submitted through channels, for consideration by the University and its prospective partners.

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We are releasing the June 30, 2020 Issue of the IJODeL. As we do this, we start preparing the December 30, 2020 issue. In this regard, we are also issuing another call for papers for the December 30 issue of the IJODeL. The previews calls for paper remain valid, but this specific call focuses on: (1) reviews of significant books published very recently that highlights the importance of recent developments in telecommunications technologies and their impact on e-learning time and (2) exhaustive review of the latest literature on e-learning either in the Philippines or in other countries.

The review of literature must highlight research gaps and even shortcomings of the existing frameworks of the scientific literature. It would, for example, be interesting to see new relationships of variables in analyzing e-learning experiences among learners.

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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.

Style Guide for Full Paper Submission

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:

Surname, A. A. (year). Article title. *Title of Journal, volume number*(issue number), inclusive page numbers.

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.

Author Guide

The International Journal on Open and Distance e-Learning (IJODeL) welcomes original research articles, book reviews, theories, and best practices pertaining to ODeL worldwide. Articles should be 3,000-7,000 words including tables, figures, and references.

A publishable quantitatively-oriented paper should contain the following:

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

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