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IN THIS ISSUE:

Vision and Mission of the IJODeL

Vision

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

Mission

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

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Board of Directors and Editorial Staff

Editorial
Volume 5, Issue No. 2

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. 1 (June 2019) has just been completed and shall be online shortly.

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

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

Felix Librero, PhD
Chief Editor

Table of Contents

Articles

Computer-based Simulation and its Effects on Student's Knowledge and Interest in Chemistry

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Abstract

Central to learning Chemistry is the development of fluency across various representations such as symbolic-, macroscopic-, and particulate-levels. "Simulations that support multi-representational fluency are considered critical (Moore, Chamberlain, Parson, & Perkins, 2014)" because of the inherent difficulty of Chemistry as a subject matter. This action research, aimed at analyzing the effects of computer simulation on students' knowledge and interest in Chemistry, used a quasi-experimental research design. The participants of the study were three intact classes from different learning groups in a male boarding school in Southern Tagalog province. Four Physics Education Technology (PhET) interactive simulations were used in teaching the concepts of chemical reaction for three weeks.

Pre- and post-test scores of the students showed that there is an increase in students' knowledge and is highest in the advance group. The result of the interest survey showed that advance and proficient students were highly interested while students approaching proficiency were moderately interested in learning Chemistry using simulation. Students revealed that they enjoyed using the computer-based simulation while learning Chemistry because (1) of the stars that they virtually receive and the challenges posed in the game levels, (2) the material is easy to manipulate, (3) they perform the activity with minimal supervision, thus making them feel independent, and (4) the material contains practice exercises and a game after the topic introduction. The computer-based simulation is recommended to be employed in classroom instruction to increase students' knowledge and interest in Chemistry.

Keywords: *Computer-based simulation, knowledge, interest, learning groups*

Introduction

The Enhanced Basic Education Act of 2013 in the Philippine Basic Education Curriculum is a solution to create opportunities that will help all children from the time they enter the classroom until they join the workforce (McCleary, 2012). However, our educational system encourages most of the students to be extrinsically motivated for attendance, for a grade or for requirements purposes (Dichev et al., 2014). According to the 2013 Functional Literacy, Education and Mass Media Survey (FLEMMS) (Philippine Statistics Authority, 2013) of the nearly 4 million out-of-school children and youth (6-24 years old), 19.1 percent lacks interest in attending school and is higher for males (33.1) compared to females (10.1). The result also showed that the proportion of persons who are out-of-school was higher among the youth (14.5 % to 20.4 %) than among children (1.7 % to 4.9%). Educators face growing challenges on how to increase the student's interest and achievement in learning.Mobile phone content will efficiently address issues such as a universally acceptable language medium, auto-translations, relevance, and the lack of local knowledge.

Chemistry comes with many challenges including balancing equations, understanding a complex chemical language and interpreting atomic-level representations. According to the results released by the National Education Testing and Research Center (2012), fourth-year Filipino students

obtained a mean percentage score of 48.90 in the 2012 National Achievement Test. The mean percentage score in secondary science was reported to be 39.49 percent in the school year 2004-2005, 37.98 percent in the school year 2005-2006 and 40.53 percent in the school year 2011-2012. Although the result manifests an increase in student's achievement compared to previous school years, it is still far from the government's goal which is 75 percent (Macha, et al. 2018). Moreover, out of 45 participating countries in the Trends in International Mathematics and Science Study (TIMSS) in 2003, the Philippines ranked 41st and 42nd in mathematics and science, respectively (Paul & Scriven, 1987). This suggests that Filipino students are weak in terms of mastery level in mathematics and science when they graduate from high school. The performance of Filipino students in Chemistry obtained 30 percent average correct answers in TIMSS which is way below the international average of 45 percent correct answers. In the male boarding school in Southern Tagalog province, the result of the Grade 10 Chemistry quarter exam for the academic year 2017-2018 is 57 percent with an overall mean score of 24.82 out of 50 (SMSAI-Science, 2018) was a shred of evidence that students really find difficulties in learning the subject.

Science teachers were facing problems on how to present concepts in such a way that the students' knowledge and interest would increase. The issue of the performance of students in chemistry has led to several proposals for enhancement. Unfortunately, those proposals revolve around unfitting teaching strategies and insufficient real-world exposure as the main cause of students' poor performance in chemistry. Many students were less than satisfied with the way it has been taught (Cooper & Cunningham, 2010). With the fast rate of technological advancements, the traditional learning style in which the teacher is the center of the learning seems to be no longer enough (Wu et al., 2012). But when students are given the proper level of instructional support, they can use a properly designed simulation to discover scientific concepts (Rieber, 2005). This study was set to analyze the effects of using computer-based simulation on students' knowledge and interest.

Objectives

The main objective of this study was to analyze how computer-based simulation (CBS) affects students' knowledge and their interest in Chemistry. The specific objectives of the study were:

1. To determine the level of knowledge of the students in Chemistry before using the computer-based simulation;
2. To determine the level of knowledge of the students in Chemistry after using the computer-based simulation;
3. To analyze the students' level of knowledge before and after the computer-based simulation in Chemistry;
4. To examine the effect of computer-based simulation on students' interest in Chemistry; and,
5. To recommend activities that would increase students' knowledge and interest in Chemistry.

Conceptual Framework

Gagne (1981) suggested nine events of instruction that may enhance student learning: gain attention, inform learners of objectives, stimulate recall of prior learning, present stimulus, provide learner guidance, elicit performance, provide feedback, assess performance, and enhance retention and transfer. Computer simulation complements the nine events of instruction (Gagne), which is an excellent lens to enhance the teaching and learning process.

Methodology

This study involved 143 students from three chemistry classes who were grouped homogeneously. The general weighted average of the advanced students (Group 1) is 90.94, proficient students' (Group 2) GWA is 88.32 and the GWA of the students who were approaching proficiency (Group 3) are 82.80. The study utilized the Physics Education Technology (PhET), a free resource computer simulation, in learning Chemistry. The setting of this study was in a male boarding school in the Southern Tagalog province. The researcher used a quasi-experimental design in analyzing how the computer-based simulation affects the knowledge and interest of each group of students in Chemistry.

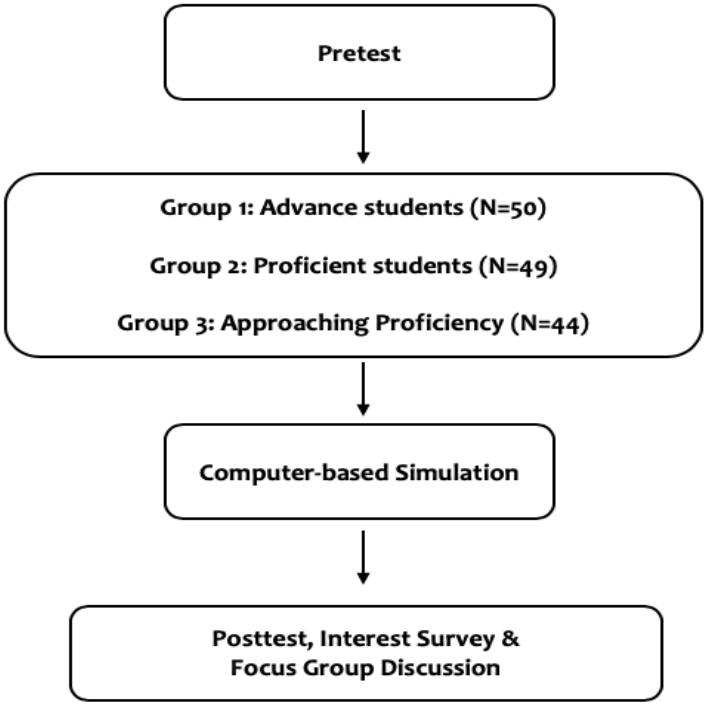

Figure 1. Data Collection Procedure

All of the students took the pretest and then learned the concepts of a chemical reaction using the computer-based simulation. After eleven weeks of instruction, the same students took a posttest and answered an interest survey. There were 6 to 8 students per learning group who participated in the focus group discussion (FGD).

The results from the pre-test and posttest were analyzed descriptively. To determine whether how the computer-based simulation affects the interest of the students in learning Chemistry, the activity perception survey was modified and utilized from the Intrinsic Motivation Inventory developed by Ryan, Mims, and Koestner in 1983. This survey has three subscales: enjoyment, value/usefulness, and perceived choice. Items in this survey were rated with a 7-point Likert scale. The data collected were tabulated in a frequency table. Weighted mean for each item and for each subscale was calculated and interpreted. The 7-point Likert scale was divided into three intervals for ease of interpretation and discussion. The following table served as the basis for interpreting the weighted means.

Table 1. Intervals used for interpreting the computed weighted means

Interval	Interpretation
4.67 to 7	High
2.34 to 4.66	Moderate
0 to 2.33	Low

Results and Discussion

Results of the pre and posttest showed that there is an increase in the mean difference across all groups. In group 1, there were no students who passed the pretest but during the posttest, there were 49 students who passed in the test. In group 2, there were 5 students who passed in the pretest but all of them passed in the posttest. In group 3, there were no students who passed the pretest but during the posttest, there were 6 students who passed the exam. Looking at the passing percentage per group, Group 2 has the greatest number of test passers among the three groups. Using the mean difference, there was an increase of scores by 10.980 (group 1); 10.490 (group 2); and 4.614 (group 3) making computer-based simulation effective in all learning groups.

Table 2. Mean Difference

	Group 1	Group 2	Group 3
Pretest (sd)	11.54 (3.032)	12.73(2.978)	8.30 (2.163)
Posttest (sd)	22.52 (3.621)	12.73 (2.978)	12.91 (4.414)
Mean difference (sd)	10.980 (4.447)	10.490 (3.447)	4.614 (4.914)

In the focus group discussion, some respondents coming from the advance group shared that they have questions or questions about the topic which was supposed to be addressed right away if the teacher conducted a lecture. They further reasoned that "nakakalimutan po naming magtanong kasi baka maubos na din po yung time sa pag gamit po ng PhET simulation tapos na realize nalang naming nung lumabas sa exam." Group 2 has the highest mean in each of the tests but the greatest increase in knowledge was posted by Group 1. There was an increase in knowledge in Group 3 but using their posttest scores, most of the students failed in the exam.

The computer-based simulation includes affordances, productive constraints, analogies, and representations of phenomena that allow students to construct an understanding of science topics (Podolefsky, Perkins & Adams, 2010). In a related study conducted by Estipular and Roleda (2018) in the Philippines, the pre- and posttests scores of the students showed that there is a significant improvement in the students' conceptual understanding of science topics. However, there are also other factors that explain the increase in students' scores in the posttest. Pretest to posttest gains can be confounded by factors outside of instruction (Marsden & Torgerson, 2012). Natural trends in students' growth and maturation sometimes can account for improvements in scores.

Results of the interest survey showed that advance and proficient students posted a high interest in Chemistry while the lone near proficient rated their interest as moderate. Advanced students posted an overall weighted mean average of 5.55 (high) from the three subscales: enjoyment (rating = 5.83); value/usefulness (rating = 5.86); and perceived choice (rating = 4.97). For the proficient students (group 2), it got an overall weighted mean average of 5.35 (high) from the three subscales: enjoyment (rating = 5.69); value/usefulness (rating = 5.74); and perceived choice (rating = 4.63). For students approaching proficiency (group 3), it got an overall weighted mean average of 4.25 (moderate) from the three subscales: enjoyment (rating = 5.10); value/usefulness (rating = 5.35); and perceived choice (rating = 2.31).

Table 3. Interest survey summary

Interest	Group 1	Group 2	Group 3
Enjoyment	High (5.83)	High (5.69)	High (5.10)
Value/Usefulness	High (5.86)	High (5.74)	High (5.35)
Perceived Choices	High (4.97)	Moderate (4.63)	Low (2.31)
Average	High (5.55)	High (5.53)	Moderate (4.25)

Students revealed that they enjoyed (see figure 2) using the computer-based simulation while learning the Chemistry concept because of the following reasons: (1) due to the stars that they virtually receive and the game levels were challenging;(2) it is easy to manipulate; (3) they were able to do the activity with minimal supervision, thus making them feel independent; and, (4) it always has a practice and a game after the topic introduction that comes in different levels.

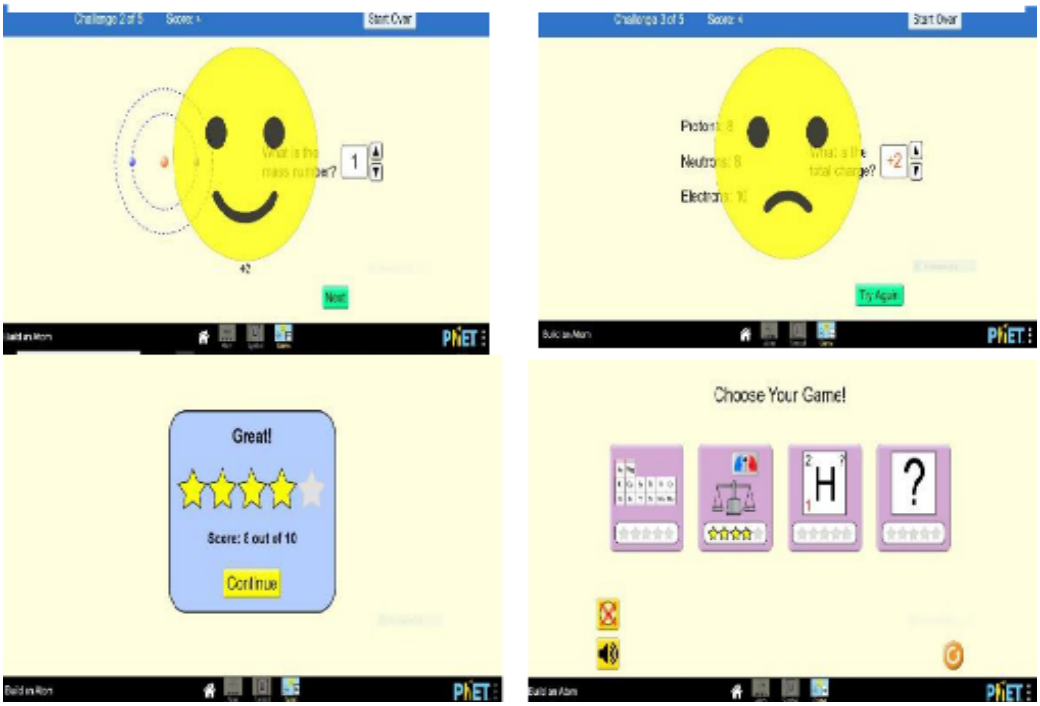

Figure 2. Leveling up your game

In a study conducted by Kuhn (2006), it also showed that learners knew how to build models to explore larger or smaller complex problems and were able to model them independently; they were able to construct meaningful representations and had little or no difficulties using the tool

and the devices used in PhET simulation. Another respondent also enjoys it because he gets to share strategies with his other friends taking the same subject. It was also enjoyable because according to them, students were given the chance to explore in the different computer-based simulations to choose among the topic introduction (see Figure 3), practice or the game.

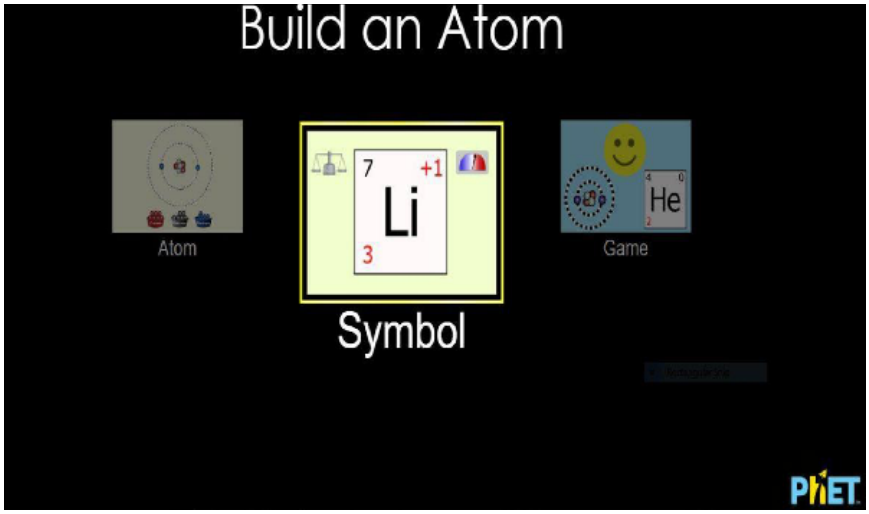

Figure 3. Choose your activity

This result is in line with Gagne's sixth level of instruction. The desired performance is elicited from the learner which in turn could build performance confidence and self-esteem and master target skills and encourage further knowledge acquisition (Gagne, Briggs, & Wager, 1992, cited in Faculty Development and Instructional Design Center, n.d).

Students shared that computer-based simulation is useful in (1) visualizing Chemistry concepts, (2) making the students curious, (3) making the students interested in Chemistry, (4) allowing the students to commit mistakes as he learns the topic and (5) challenging the students.

The majority of the students enjoyed and find the activity useful in learning Chemistry. A respondent from group 3 shared that they have to do the activity for them to be given another chance to use the computer. Various studies suggest that the most effective factor contributing to students' decisions to study science is their interest in the subject (Milner, Ben-Zvi, & Hofstein, 1987; Lindahl et al., 2003). Respondents shared that computer-based simulation is very useful in understanding the movements of atoms and molecules and it helped them understand the concept in a simpler and faster way. One respondent said, "*It is very hard to imagine what happens to molecules when temperature or other factors affecting reaction is increased or what molecules look like*," but using the simulation (see Figure 4), visualisation is real time.

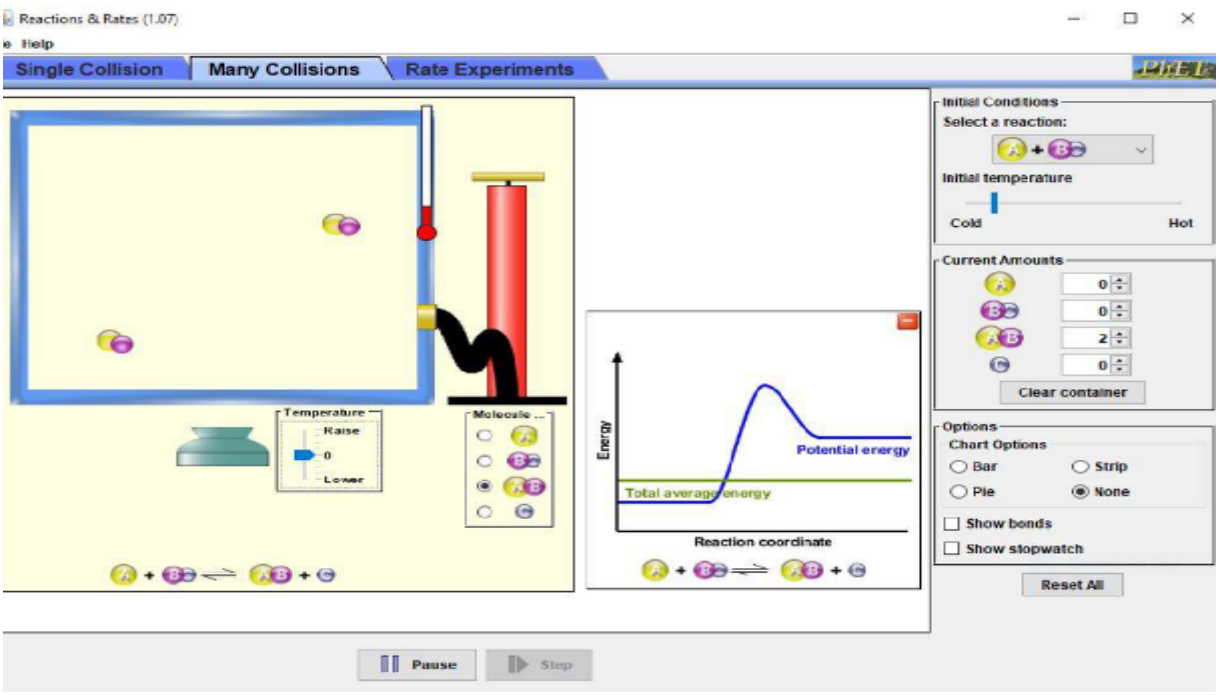

Figure 4. Reaction & Rates

It also challenges them because they had to learn the concept at their own pace and can check whether they really understand the concepts through the different game levels, thus making them feel independent. In Gagne's first level of instruction, the attention of most individuals is easily gained and maintained through a learning experience (Bill, 2003) . The speed of the simulation is manipulated by the individual, therefore faster learners are not bored and slower learners maintain control for their own optimum rate of knowledge acquisition. The respondents said that they got mistakes especially in balancing the chemical equation (see Figure 5) but while they are committing mistakes, they learn how to balance equations properly (see Figure 6). They thought that balancing equations was a hard topic but the computer-based simulation makes them realized that one just had to adjust the coefficients and it must be always equal in both reactants and products side.

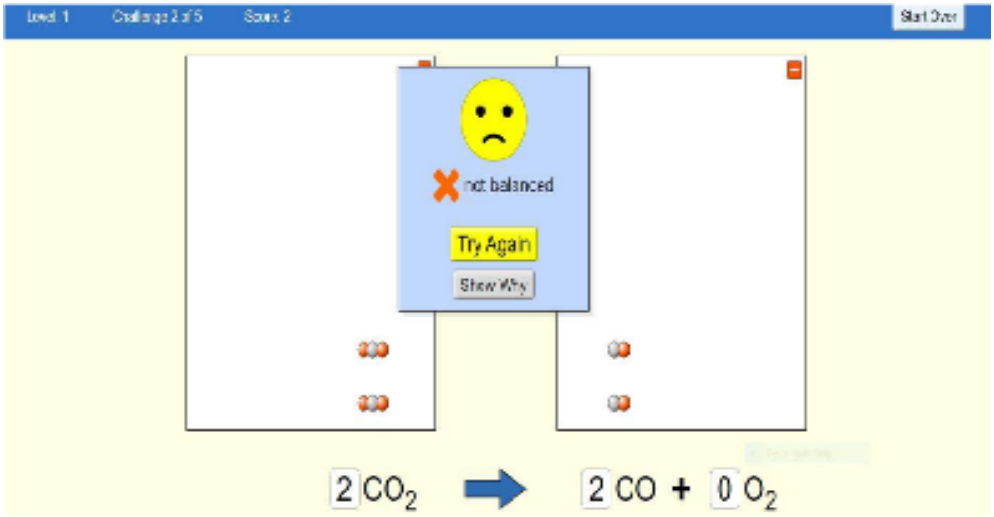

Figure 5. Balancing equations (x)

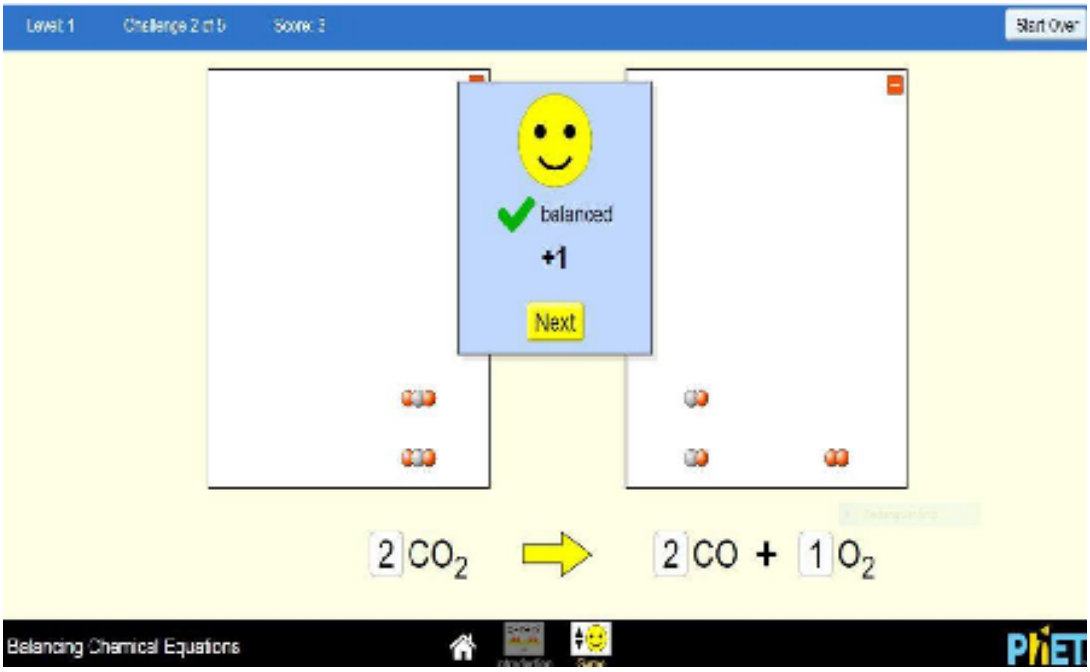

Figure 6. Balancing equations (/)

According to Gagne's eight-level instruction (Kruse, 2009), the safe environment affords the individual an opportunity to learn by making mistakes and receive additional information in the form of instructive feedback. This type of assessment also provides the learner with information pertaining to her progress towards the mastery of skills set forth in the learning objectives.

A longer time for computer-based simulation helped them learn the concept independently. Respondents find it boring to learn a concept in the classroom especially those that are hard to visualize and concepts which they cannot relate in their daily life. According to Gagne's first level of instruction, the use of multiple media enables the learner's senses to be heightened and primed to receive information (Gagne, Briggs, & Wager, 1992, cited in Faculty Development and Instructional Design Center, n.d). The majority of the respondents said that even though they behave well in using the computer due to a variety of reasons, the majority of them also said that they enjoyed and were challenged to learn the topic on their own. The graphics, stars, and the game level make it enjoyable and challenging. The majority of them also shared that they prefer computer-based simulation as a reinforcement activity, that is, the teacher should present first the necessary concepts. By doing this, it will save time and all students can relate in the simulation because they already have a background on the topic.

Based on the available data, computer-based simulation should be used in learning a concept most especially in topics that are hard to visualize and unsafe to perform in the laboratory. The teacher should entertain questions related to the lesson, especially during the session. For example, an advance student shared in the focus group discussion that he had questions that do not address right away because he was so much into the simulation. Students across all learning groups should be monitored because of the issues that need to be identified and resolved when individual differences are considered. A participant in the focus group discussion said that "hindi ako masyado ma computer kaya nag a-adjust po ako." It is important that the design of learning activities be given a higher level of priority than the use of instructional technology when employing computer simulations in the classroom. Participants from group 3 shared that they

were having a hard time understanding the worksheets due to the language barrier. Students who were approaching proficiency suggested that they want the computer-based simulation activities to be reinforcement rather than the strategy to present the topic. They will prefer that the teacher will present all the related concepts first for them to have a better background and to not waste time. The researcher recommends that students should be allowed to fully and or will not fully engage in computer-assisted activities to cater to different learning styles.

Conclusion

Using the result of the pre and posttest, it was found out that the use of computer-based simulation increases the knowledge of all learning groups. There was an increase in the pre and posttest mean scores and is highest in the advance group. This is similar to the result of the study conducted by Estipular and Roleda (2018) in the Philippines, the pre- and posttests scores of the students showed that there is an improvement in the students' conceptual understanding of science topics. Proficient students have the greatest number of test passers among the three groups while the advance students posted the highest increase in knowledge.

Using the activity perception survey, the results of the survey showed that the enjoyment subscale posted a high rating in all learning groups. Students revealed that they enjoyed using the computer-based simulation while learning the Chemistry concept because (1) of the stars that they virtually receive and the game levels were challenging and (2) it is easy to manipulate, (3) they were able to do the activity with minimal supervision, thus making them feel independent and (4) it always has a practice and a game after the topic introduction that comes in different levels. This study also found out that students believed that computer-based simulation has a high value or use in learning Chemistry concepts. Students shared that computer-based simulation is useful in (1) visualizing Chemistry concepts, (2) making the students curious, (3) making the students interested in Chemistry, (4) allowing the students to commit mistakes as he learns the topic and (5) challenging the students. On the perceived choice, the advance students rated it high. Respondents from this group shared that they performed the activity because they want to earn all the stars and achieve the maximum level and are always looking forward to using computer-based simulation in learning a concept. Proficient students rate it as moderate. The majority of the respondents from this group wants minimal supervision from the teacher. On the other hand, students approaching proficiency posted a low rating and shared that they have to do the activity for them to be given another chance to use the computer. Overall, the interest of the students in learning Chemistry while using computer simulation was moderate to high. Students from this group suggested that computer-based simulation activities should be a reinforcement activity to avoid waste of time and to help students be aware of the topic's background.

Based on the findings of the study, using computer-based simulation increases the knowledge and interest in Chemistry of advanced, proficient, and even to students who were approaching proficiency. The computer-based simulation is recommended to be employed in teaching and learning Science concepts, particularly in Chemistry.

Recommendations

The researcher highly recommends that science module developers should include the use of computer-based simulation in science teaching and learning guides because this study revealed

that it can increase students' knowledge and interest in Chemistry. The computer-based simulation is recommended to be employed for classroom instruction even on other topics of Chemistry and other branches of Sciences.

Further research must be made to investigate its effects when students are allowed to fully and or will not fully engage in computer-assisted activities.
While integrating the emerging new technology that can potentially help students in learning, considerable continuing research needs to be done because there are always issues that need to be identified and resolved when individual differences are considered. The use of technology in teaching and learning solves the barriers in education and promotes inclusivity. Meanwhile, it is important that the design of learning activities and the use of instructional technology must be given a priority when employing computer simulations.

The researcher also recommends that further studies to groups of developing and beginning students should be made to analyze its effects when this is employed to other learning groups. Research should also be conducted to heterogeneous groups so that there will be a control and treatment group for comparison purposes.

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Student co-creation in an online university: successes, failures and how to move forward

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Abstract

I embarked on a Digital Collective project in 2018 to engage students and other stakeholders to co-create knowledge in a learning platform and tap the full potential of open educational practice at the University of the Philippines Open University. The project tried to co-create OERs with students and alumni to explore the idea of building an online learning community as the foundation over which co-creation was to be conducted. I recruited volunteers from UPOU's Bachelor of Arts in Multimedia Studies (BAMS) program to join me in the project, which ran for much of 2018. The purpose of this autoethnographic study is to assess and reflect on the strengths and weaknesses of how the project was conducted. These preliminary findings using autoethnography can hopefully help the university in drawing up a plan that can effectively build this online community.

Key themes were identified as factors for the project's success. Through self-reflection, review of project notes, and a group discussion with some participants with respect to these themes, participation, and output can be attributed to setting clear goals for participants, level of incorporation into the curriculum, institutional support, and adopting an appropriate method of organization. The data suggest a more defined approach following a community of practice model rather than that of a learning community, as these may lead to not just improved project management and productivity, but also less dependency on any formal ties with the curriculum.

Keywords: *Co-creation, distance education, open university, online communities, autoethnography*

Introduction

University of the Philippines Open University (UPOU) has made it a mandate to adopt open educational resources (OERs) for teaching and research. However, much of the early work and exploration conducted are still understandably faculty-centric with students as consumers. While there are efforts to produce in-house content, the employment of OERs predominantly involves only the adoption of existing resources and making changes for either updating or localization. As we wanted the UPOU to tap into the full potential of open educational practice (OEP), I explored student co-creation in 2018 as a member of UPOU's Faculty of Information and Communication Studies (FICS).

I started the UPOU Digital Collective, a community-driven project comprised of students, alumni, and staff with the intention to co-create OERs. The initial goal was to build an initial set of multimedia materials, which include stock photography and graphic and audio content. Existing content, such as old projects, blogs, and assignments made openly available would also be considered for inclusion. The materials created and collected were to be released for the consumption of the greater learning community at UPOU.

Production is the core goal of the Digital Collective project (http://www.digitalcollective.site) but there are other aspects to it that required attention. Prior to starting the project, I had been working on and off with an idea to leverage technology and know-how learned in class to enhance student engagement and benefit different sectors in the university. The project was centered on the idea of students' co-creation of content that they can add to their portfolios, and at the same

time, share the content as OERs with the greater learning community in the university.

I hand-picked a group of students whom I believed would be deeply interested to lay the groundwork for the co-creation project. While recruitment posed no issues, getting those students to buy into the idea and then actually do work had proven to be more challenging than I had expected. This autoethnographic paper relates my experience in facilitating the project, from coming up with my initial ideas, mobilizing a group of students, ultimately putting the project on hold for assessment, and determining what adjustments to make to help ensure success when the project resumes.

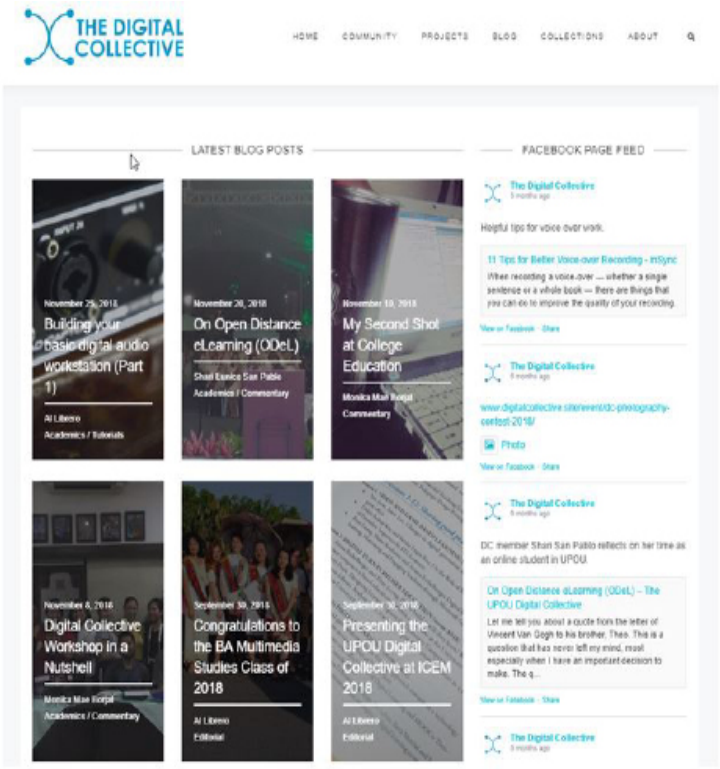

Figure 1. The Digital Collective front page (https://www.digitalcollective.site)

Research Questions

The following research questions were addressed empirically to give credence to my narrative.

RQ1. How did I conceptualize the OER project and motivate students and alumni to join the project?
RQ2. How did I experience the project? (what were the challenges I faced and how did I address them)
RQ3. How did other participants experience the project? (what were the challenges that they faced and how did they address them)
RQ4. What were the important factors for the success of the project and how can I better support the project?

While this study primarily revolved around my understanding of what transpired, it also covered that of the participants in the project. It is also intended to shed light on the intricacies involving co-creation efforts in general, with respect to online academic institutions and their constituents.

Literature Review

OERs and student co-creation

United Nations Educational, Scientific and Cultural Organization (UNESCO, 2012) defines open educational resources (OERs) as "teaching, learning, and research materials in any medium, digital or otherwise," that reside in the public domain or have been released under an open license that permit no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Navarrete, Luján-Mora, and Peñafiel (2016) credit the adoption of OERs for enhancing access to knowledge and the improvement of learning materials through talented students and staff, subsequently increasing the quality of research and the reputation of academic institutions. On the other hand, while not necessarily in disagreement, Weller (2014, pp. 86-87) cautions that while there is a strong belief towards several positive impacts regarding OERs, it has not always been backed by evidence. While more proof can now be found through recent efforts, Weller asserts that continued experimentation is necessary for critical evaluation.

Stagg's (2014) proposition of a continuum of open practice (Figure 2) laid out multiple stages of how a higher education institution (HEI) adopts OERs. Adoption culminates at the final stage, where a student or learner co-creation is established. By reaching this stage, learners are at a point where they have built enough self-confidence to work independently or they can work as full collaborators alongside teachers in working with content.

Figure 2. Continuum of open practice (Stagg, 2014)

This stage of empowerment among learners bears similarities with an observation of Librero, Vermeulen, and Maranan (2011) while running Biomodd[LBA2], a collaborative new media art project partially constituted by students from the BA Multimedia Studies program of UPOU. We observed that participants became active collaborators, as they openly shared their ideas and they were able to work more autonomously and productively after reaching a stage where they became confident with their level of know-how regarding the project.

Building Online Learning Communities

Online learning communities require the same building blocks that include clear goals, commitment, promotion, and administrative support (Smith, 2009). However, the lack of face-to-face interaction poses a challenge, particularly with regard to the sense of community. In a study among students at Regent University, Rovai and Jordan (2004) asserted that a higher level of connectedness in blended and traditional learning environments compared to online environments can be attributed to face-to-face interactions. Paloff and Pratt (2009, p.32-34) acknowledge the usefulness of face-to-face meetings. However, they also assert that ensuring steps are made to establish identity and code of conduct, also allowing certain freedoms to make

it possible for online communities to be built effectively and be given the potential to create stronger connections than in face-to-face groups. Paloff and Pratt focused on personal and practical considerations. They state that a virtual classroom must counteract the dehumanizing nature of such an environment to build a sense of community. Fostering the freedom to discuss a full range of topics and issues from high-level academics to the mundane is also recommended to promote openness which is necessary for a learning community. My observations in the past through an open-ended community-building project (Villanueva &Librero, 2010) corroborate this argument. Students in UPOU credited personal connections and social interactions as incentives to remain active in an online community.

Gaps in Literature

The gap identified as literature on student co-creation and community building. Timmons et al. (2010) wrote about collaboration, but on scale-spanning multiple institutions in the context of a community of practice. Tsipursky's (2013) work on his concept of class-sourcing, which is essentially crowd-sourcing within the confines of a classroom setting, is one of the main inspirations of my project. However, his concept was not community-driven and the process of content creation is strictly within the confines of his classroom. Furthermore, while the goal is also for consumption of the general public, Tsipursky makes no clear indication of his adoption of open educational practice or the release of class-sourced content as OER. My work in the past touched on both co-creation and online community building, but never both at the same time, prior to the Digital Collective project. My previous community-building project tried to establish extracurricular connectedness amongst them but did not mobilize students towards achieving any specific goals outside the class. What relevance Biomodd (Librero, Vermeulen &Maranan, 2011) had to this study is circumstantial.

This research explores the possibility of online community-driven co-creation. It is my hope that this study can provide information, insight, and empirical evidence on this initiative.

Methodology

Autoethnography

Autoethnography is an approach to research and writing that seeks to describe and systematically analyze personal experience in order to understand cultural experience (Ellis, Adams, &Bochner, 2011). Furthermore, Chang (2009) argues that autoethnography should be ethnographic in its methodological orientation, cultural in its interpretive orientation, and autobiographical in its content orientation.

My role as the main proponent of the stalled project will make detaching myself impossible. I still intend to continue the project, so how it moves forward will still depend on me and my understanding of its workings and how I interact with the people involved. I will be dealing with matters of human perception, behavior, and interaction, of mine and the project participants, which might be best presented through narratives.

The Digital Collective project had turned out to be a deeply personal experience. On top of challenging my academic and technical proficiencies, it has led me to question my ability as a facilitator and motivator. The stalling of the project had caused feelings of disappointment

not just with me, but also with some of the participants, particularly those who had invested time and effort in it. These students may have had motivations that go beyond academic performance. Studying these motivations may become helpful in the operation of the project in the future.

Data collection

Being a project leader puts me in a position of being both the researcher and the researched – the primary participant in the project. The data from me as a participant came in the form of recollections, reflective commentary, notes from meetings, as well as informal discussions with other people.

I also collected data from those who volunteered to share their thoughts on the matter. Chang (2008) identifies this as a valid approach in autoethnography. Through email, social media, and face-to-face meetings, I personally invited over 30 students and alumni from UPOU's BA Multimedia Studies program to participate.

Further, a group discussion was conducted to gather data from the most active among nearly 60 participants in the project. This was meant to cover any grounds which I could have overlooked or did not consider at all. I sent out informal invitations through direct messaging in the social media platform (Facebook) to participants whom I believed had much to share due to their backgrounds and personal connections with the rest of the participants in the project. Five(5) of them responded positively and subsequently received formal invitations through their email. The original intention was to individually interview the invited participants. However, the participants, being personally close to each other, came to a consensus that a group discussion would be more amenable to them. The main questions posed in the discussion:

1. To the best of your understanding, what was the project about?
2. What were your motivations for joining the project?
3. How well did the project's goals coincided with your interests and agenda?
4. What do you think were the things that you appreciate the most during your time in the project?
5. In your opinion, why do you think the project stalled?
6. What are the things that need to be done by all parties involved to keep you interested in re-joining the project when it resumes?

These questions were devised to directly address RQ3, as well as widen my perspective towards RQ4. They were also framed to be open-ended to allow for follow up questions and further encourage the sharing of relevant insight which I may have not foreseen. The discussion was conducted online and yielded nearly two hours of recorded audio and video.

Data analysis

This study was conducted with respect to the methods prescribed by Creswell (2013) on the analysis and interpretation of qualitative data, which involves six steps:

1. Prepare and organize the data for analysis;
2. Explore and code the data;

3. Code to build description and themes;
4. Represent and report qualitative findings;
5. Interpret the findings; and,
6. Validate the accuracy of the findings.

The results of my recollection and self-reflection, as well as the group discussion, were subjected through a process of identifying recurring topics and themes. I then proceeded to apply as many of the ten strategies for analysis and interpretation prescribed by Chang (p. 131), these strategies are:

- Search for recurring topics
- Look for cultural themes
- Identify exceptional occurrences
- Analyze inclusion and omission
- Connect the present with the past
- Analyze relationships between self and others
- Compare cases
- Contextualize broadly
- Compare with social science constructs
- Frame with theories

Findings and Discussion

Addressing the research questions

How did I conceptualize the OER project and motivate students and alumni to join the project?

The UPOU Digital Collective had been a project I began thinking seriously in 2017 when I was oriented with Open Educational Practices. I realized that student co-creation is a frontier that can be a growth area for UPOU. The basic idea of the project was to build a platform to facilitate student co-creation. However, implementing that idea required the consideration of multiple aspects, thus I imposed no restrictions on what content could be accepted. To be more realistic and in-line with the capacity of the students involved, I had elected to start with contents that can be considered as building blocks for more complex OERs. These included stock photography and graphics, original music, and sound effects. Podcasts and blogs, whether existing or created especially for the project, would also serve as additional contents.

I agree with Smith's (2009) assertion that administrative support is crucial, hence, I started the project in 2018 after securing some funding, access to university facilities, and the next program chair's commitment (my tenure as the chair for the BAMS program ended this year). Still, the major hurdle of not having the means to integrate the project into the BAMS curriculum during that time remained. From an academic standpoint, what I felt was the best I could offer to students, particularly the ones who were nearing graduation, was that they can use my project to build their capstones on. However, there were very few students who were at that level and actually took advantage of this. It would be reasonable to surmise that not having the opportunity of being credited directly by the BAMS curriculum for their efforts in the project gave more junior students, which make up the majority of the participants less motivation, to actively participate.

An important epiphany brought about by my findings is a possible fundamental flaw in my approach to community building. As an academic in an online university, I have experience in dealing with learning communities, and that is the default basis of my approach. However, upon further study and consideration, what I had set out to foster for the Digital Collective project is more akin to a community of practice. In Blankenship and Ruona's (2007) comparative study of learning community and community of practice models, the latter is more associated with voluntary participation, with a definite but more distributed leadership and value for the improvement of practice, while not necessarily dropping priority for academic improvement. Adopting a community of practice model may be a prudent move, especially if the project cannot be effectively incorporated into the BAMS curriculum.

> How did I experience the project? (what were the challenges I faced and how did I address them)

The long-term over-arching goal of a sustained community-driven co-creation movement was lofty, by my estimation. However, I made a conscious decision to start with realistic immediate goals within the second half of 2018. I only set two. First, a web-based platform in which to upload and publish multimedia artifacts and blogs has to be set up and go live. The second goal was to make the actual content available, either by creating new ones or sharing existing ones. So, I immediately moved to set up the machinery to achieve these two goals.

Getting people to join at the beginning turned out to be easier than anticipated. I believe it helped that I was directly asking people whom I have had meaningful interactions with in the past. I consciously knew that each participant would have at least one aspect of the project which he or she would be interested in. As mentioned, 59 people joined the closed Facebook Group. This was made up of not just students, but also alumni who were willing to join and presumably give back to UPOU. While it is hard to give a precise number, I would approximate that most of these 59 people would have the potential to contribute. It would be a matter of being an effective facilitator to harness that potential.

The immediate goal for the participants was made clear: to submit a multimedia content for consideration and can be included as a learning resource in our repository to be shared under Creative Commons licensing. Blogs and articles were also solicited. All of these can either be new or already existing. It is important to note that all of the participants have been students in at least two of my classes. My course requirements were meant to be for public viewing, thereby assuring that each participant potentially had something to share already.

While there was never a lack of interest, actual progress in achieving this immediate goal proved challenging early on. Although there were well over fifty Facebook Group members, the majority of them were 'passive' participants, meaning that while I can assume they are reading, they would almost never contribute to discussions, ask questions, or answer my questions. They could click on the Like button, but that was it. Only a handful could be considered analogous to what active participants would be (Mohd et al.,2011), responding in discussions and even fewer would make good on their commitment to work on creating content. In retrospect, the dynamics were very much akin to that of my online classes but this was not expected, as I hand-picked the participants to invite based on my recollection of their performance and behavior in my classes, and very few of them are what I would consider historically as being passive in class.

Output came far in between. It is understandable to an extent, due to participants having higher priorities, with my being unable to secure incorporation in the curriculum. Full-time students have studies to worry about. Working students don't even have their studies as their top priority. Work in the project is at or near the bottom of their list. What I failed to understand is how other priorities can prevent participants from sharing their existing content. It is important to point out that all of the participants have been students in my classes, all of which require them to produce multimedia products. While difficult to quantify, considering the potentially available content already existing from each participant, the amount that was shared was highly disproportionate.

As we were approaching the end of the timeframe that I had allotted, with no indication of significant progress, I suspended the project indefinitely and notified the participants. I decided to not proceed until I have a better understanding of how to run the project and how to build and grow a community that can serve the project well.

While the passiveness of participants seemed to have contributed to not satisfactorily meeting the immediate project goal, this may also reflect on me as the head of this group, or this budding community. I did not set up any clear organization or hierarchy among members. While such a setup apparently made for a looser environment, this increased the challenge for not just me, but also other active participants to attempt to collaborate with passive participants.

> How did other participants experience the project? (what were the challenges that they faced and how did they address them)

The group discussion indicates that I was able to effectively convey what the Digital Collective was about – a space for students to practice what they have learned in the BAMS program and to showcase the products of their practice. The prospect of building a community of learners as a foundation for the project also appealed to them. However, the participants did not necessarily have the same order of value of the different aspects of the project.

It is worth noting that with the discussants having different backgrounds is how they value each goal or aspect differently. One discussant, being a working student in another country value the chance to showcase works in an ePortfolio. Additionally, with no face-to-face contact with other students, the community aspect of the project was also appealing. Even the mere act of spending more time with co-participants outside the online classrooms was a significant motivation for joining. Other discussants were deeply interested in taking interactions a step further by exploring the idea of running the project as an academic organization. I also discovered an indication that participants also have found other reasons to join. For example, one of the older discussants saw the project as a means of leaving a legacy in UPOU. This alludes to the value of being credited for authoring content for the benefit of the greater learning community at large in the university.

The group offered a number of reasons for the low rate of content submission. The obvious overarching reason would be the presence of other, possibly more important commitments on the side of the participants. It would again be important to note that participation in the project is not the top priority for any participant, including myself. Without any integration with formal coursework, participation in the project would be of lower priority than studies, by default. And as I perceive it, in the case of the majority of the participants, studying is not the top priority of their lives, either. Work, family, and health often take precedence. This often leaves little time to do meaningful volunteer work for the project. Some of the discussants also brought up their

observation that some of the participants had underestimated the amount of work needed to be done and there was a lack of will or motivation to actively meet the actual expectations.

The above reasons apply to the task of creating new content but there was also the task of sharing what they already have on hand, such as artifacts from projects and blogs. I know first hand of the relative abundance of such artifacts since I required them as projects and assignments in my courses, and all of the participants were former students. Submitting would be a matter as simple as copying and pasting. However, very few blogs and practically no other artifacts were made available on the project website.

Interestingly, a discussant offered the possibility that it is a display of the participants' "hiya," a Filipino term which often translates directly to shame. Lasquety-Reyes (2016, p.66) asserts that it also refers to sacrificial self-control of one's individual wants for the sake of other people. Lasquety-Reyes argues for hiya as a positive virtue – a sign of sensitivity and respect towards the needs of others. Nevertheless, he also acknowledges how it is often rooted in a fear of disgrace or embarrassment. "Hiya" can also be a sign of self-sensitivity from criticism and disgrace. I give emphasis to this particular term because of its prevalence in Filipino culture, and by extension, the online Filipino classroom. It is possible that participants did not have the confidence to put their work out in public side by side with his or her peers. While there were participants who craved for interaction, it would have been likely that there were those who were not comfortable working within a group. The discussant who brought this up remarked at how some students harbored a certain amount of fear or shame at the prospect of disappointing me personally.

However, I think the more important point that can be made is that it is possible that some participants would rather not submit than possibly get scrutinized by me, their peers, and the greater community of the university. These are interesting culture-related assertions that I had not previously considered.

Much of the discussion, nonetheless, covered how the project was managed. According to the discussion group, while they understood my unwillingness to impose any obligations over the participants, it may have led to certain drawbacks. First, the lessening of pressure to produce, while making for an amicable environment, may have undermined the necessity of doing the work expected of them. Another important point raised was that my reluctance to impose authority and establish a more formal organization of the group also created hesitation among the more active participants to attempt to mobilize the passive participants directly.

A lot of adjustments were made. Passive participants remained passive, while the active participants proceeded to exert effort to co-create content. Much of the active participants' products are either archived or made available on the project website. They also remain on standby for the resumption of the project.

> What were the important factors for the success of the project and how can I better support the project?

The themes in the literature, as well as the findings, identified the following themes:

- Clarity of goals – laying out the project's goals and objectives and the roles of participants
- Incorporation into the curriculum – crediting of work done in the project as part of the requirements of courses in the BA Multimedia Studies program

- Organization – establishing a clear structure or hierarchy with participants having defined roles for a more systematic operation, as opposed to a more egalitarian approach with all participants having equal footing.
- Capacity building and support – the need for the university's administration and faculty to lend assistance with regards not just to funding and facilities, but also skills development.
- Sense of community – establishing connectedness among participants to foster connectedness and help build a viable community around the co-creation project in the long-term.

Clarity of goals

The goals of the project were clear to me. However, they may require more orders for others to understand more clearly. I had pitched a number of goals to the participants. Although the group discussion suggested that the goals were understood well-enough by the participants, they may not have been laid out enough to distinguish short-term (collection of an initial set of content) and long-term (online community building and development) goals.

A more concrete set of proofs of concept, namely sample content, may help in giving prospect participants a clearer perspective on whether or not there are incentives for them to join and what would be expected of them if they did. While providing a proof of concept was my intention in the first place, circumstances did not permit my doing so. I, as well as the core, must ensure that there will be a good amount of sample content available before resuming with the project.

Incorporation into the curriculum

The project's incorporation into the curriculum is a major factor in motivating students to participate. Failure to do so has led to lower engagement. At the very least, this led to the project go further down among the students' list of priorities. The good news is that incorporation does not necessarily require making formal revisions to the BAMS or any other curriculum under UPOU. However, it will require the participation, or at least permission of my colleagues teaching pertinent courses.

Organization

If the project resumes, the discussants recommended starting with a smaller group that would comprise a core. They cited the size of 5-10 people. However, deciding on a final number may require further thought. It is also apparent that I underestimated the need for a better organization. The creation of an actual duly recognized academic organization in UPOU continues to not be an option as of this writing, but the participants may have to be structured as such. With students and alumni accounting for themselves within a group with a clear organizational structure, I, as well as any other teacher who joins, can focus less on the students and more on the other aspects of the project, such as research, quality assurance, and of course, additional co-creation ideas.

Capacity building and support

Capacity building of participants, while of some value, should not necessarily place high in the project's priority list. While not intentionally discriminatory, this project would typically be

more attractive to students and alumni who already have a significant amount of experience in multimedia production and writing. They would no longer need the type of seminars and workshops I had conducted during the project's initial run. However, such things would be more appreciated as extension work for the more junior students who may potentially join the project in the future.

Instead of the act of co-creation being done on the side, incorporating the work done in the project to be credited somewhere in the BAMS curriculum may also help in providing additional motivation for students to join and actively participate in the project. This, however, would require the consent and even participation of faculty involved in the pertinent courses.

Community building

Community building remains an important long-term goal and a means to attract participants. But this requires further study, which this run of the project, and by extension, this paper, was not able to fully explore. Certain concerns must also be addressed. For one, the feeling of hiya and other personal mental and emotional barriers must be addressed to help foster higher levels of interaction. Securing continued support from the university will also be important

It is interesting to note that while much of the interaction was conducted online, no issues relating to distance and lack of interaction, face to face or online, were cited with regards to conducting the activities in the project either by me or the discussants. Interestingly enough, this can be seen as a contradiction to Rovai and Jordan's argument that the lack of face to face interaction may be detrimental towards online community building. Since that argument was posited in 2004, I hypothesize that today's online students, or at the very least, the project participants find the current means of online interaction sufficient in establishing connectedness with one another. However, given the sparse content produced, I believe there is not enough evidence to prove the effectiveness of the group of participants to work and coordinate themselves online to meet the project goals.

Conclusion, Limitations and Recommendations

I embarked on a Digital Collective project in 2018 intending to engage students and other stakeholders in the community to co-create knowledge in a learning platform and tap the full potential of open educational practice. These preliminary findings using autoethnography can hopefully help the university drawing up a plan that can effectively build this online community.

My idea of community with respect to the project was loosely grounded on the concept of learning communities. However, after much thought and study, community-driven production of materials, OER or otherwise, even if within the bounds of an academic learning community, may be better served by following a community of practice model, especially with the possible involvement of members who are no longer students. However, testing this hypothesis will require more time than time allotted at this stage. Doing so as part of any continuation of the project would be highly recommended.

Juxtaposing my thoughts with that of project participants has painted an even wider perspective on the strengths and weaknesses of the project and how it was handled. Hopefully, this learning

experience in this study will lead to the project's future success and more meaningful interactions with students and alumni in other endeavors. For the greater community at large, while there are certain cultural and administrative considerations in this study which may or may not apply in other locales, the continued proliferation of online learning and open educational practice will make research along these lines more valuable for academic, as well as professional institutions.

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Traditional e-Learning vs. Immersive Learning: A Perception Study among Maritime Students

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Abstract

e-Learning and immersive learning (i-Learning) are learning methods that focus on the use of technology in the field of education. e-Learning is a traditional learning that supports computer-based teaching while immersive learning is a new strategy that generates an inclusive and interactive learning environment in a virtual reality scene bringing students and trainees to a more experiential-learning workplace. The Philippines is struggling in the field of education because of the decreasing norms of education in the country's education scheme. This research assessed the gap between traditional e-Learning and i-Learning through a questionnaire provided to the second-year maritime students of the Philippine Merchant Marine Academy (PMMA) under deck and engine departments. The data showed that there is a difference between e-Learning and i-Learning but it seems to be not statistically significant. The respondents had perceived that both e-Learning and i-Learning are most advantageous at time-efficiency and least advantageous at cost-effectivity and i-Learning seems to be more interactive and realistic than e-Learning. The results had also shown that the greatest disadvantage of e-Learning is that the method seems to be boring and non-interactive; however, both methods seem to be perceived as expensive. The Connectivism Theory emphasizes that learning is most effective when the learner is willing to learn. It was concluded that either method is supplemental to acquire knowledge and can be used to help create a fair and quality system.

Keywords: *e-Learning, VR, Immersive Learning, Learning Management System*

Introduction

Keeping up through this fast-paced world can be troublesome. There are different aspects of the society that is continuously changing. According to Dr. Richard Wiseman, a British Psychologist, as cited in British Council (2009), the world's pace of life has increased to 10% since the mid-90s and by 20% in other locations. Over the years, the world had undergone a various set of changes. Throughout the discoveries, inventions, wars, and natural phenomena, the world had been in a constant state of change. One of the countries that had experienced this extensive set of changes is the Philippines. The Philippines has a vast history and had been influenced by an abundant number of nations. The country has faced and is still facing a lot of hardships within the society and one of them is education.

One of the struggles within the families in the Philippines is the lack of access to education; according to the Philippines' first multidimensional poverty index (MPI), access to education had been the biggest deprivation within Filipino households and had risen from 36.5% to 36.9% by 2016 and 2017, respectively (Multidimensional Poverty Peer Network, n.d; Valencia, 2018). This meant that 6 in 10 families, in 2016, and 5 in 10 families in 2017 lacked access to basic education. Education is one of the four dimensions of MPI. The remaining dimensions are health and nutrition, housing, and water and sanitation (Vergara, 2018). According to the Philippine Development Plan, 2017-2022, that was published by the National Economic and Development Authority (NEDA, 2017), human capital development is a necessary element to implement the plan; this reform was

implemented due to the declining educational standards in the Philippine education system during the first decade of the 21st century. In the recent report on International Assessment tests, the poor educational performance among Filipino students surfaced, wherein Philippines ranked only 34th among the 38 countries when it comes to Math while 43rd of the 46 countries in high school science (De la Cruz, 2019). Some of the recent education reforms even aspire to boost enrollment levels, graduation rates, and mean years of schooling in both elementary and secondary education, and to improve the quality of higher education (Macha, Mackie, & Magaziner, 2018).

Online learning has been a fast-growing aspect of today's age (Sun & Chen, 2016). Barnard (2017) had cited some key benefits of online learning: more affordable total costs; customizable and varied courses and instructions; accessible anywhere; convenient and flexible immediate results and feedback; and may access the best teachers. As much as online learning is both effective and easy-to-use, Bandard (2017) also mentioned that some barriers hinder online learning, these barriers are lack of accreditation and learner's self-discipline, low retention and completion rates and require good time-management skills, and lack of social aspects of the regular classes.

On the other hand, virtual reality (VR) is described as believable, immersive, computer-generated, and interactive (Lowood, 2019). VR also introduces experiential learning where the learner gets the first-hand experience on the subject through virtual reality. Experiential learning increases this retention rate and it may benefit learners through the following: accelerates learning; provides a safe learning environment; bridges the gap between theory and practice; increases engagement levels; and, assessment of complex learning is easier (Specht, 1985). Virtual reality may also be collaborative which enhances the social aspects of learning like: learn to work with all types of people; the variety of insights, student is actively involved, and personal feedback is encouraged (Barnard, 2017).

This study aimed to find out the difference between traditional e-Learning and immersive learning through the perception of Filipino Maritime students in the Philippine Merchant Marine Academy (PMMA). With the continuous emergence and development of new technology, this research would be engaging for learners who aspire to use technology as a supplemental tool for learning. This had been chosen to research because of its uniqueness through the emergence of e-Learning and its enhanced versions. There is only a selected number of researches or none at all where e-Learning and immersive learning had been involved. This study may also contribute to developing a quality educational management system in line with today's continuously growing technological age. Additionally, this may help in creating and improving, not only quality education, but a fair learning management system.

Objectives

This research would like to determine the difference between traditional e-Learning and i-Learning through the perception of Filipino Maritime students in the Philippine Merchant Marine Academy.

The study aims to specifically answer the following questions:

1. What is the demographic profile of the respondents in terms of:

    a. Gender b. Department

2. What are the devices most commonly used by the respondents? Particularly:
   a. Smartphone
   b. tablet
   c. Laptop
   d. PC/Mac
   e. Game consoles
   f. Smart watch
   g. Others

3. What are the advantages of e-Learning and i-Learning? In terms of:
   a. cost-effectiveness
   b. interactivity
   c. Time-efficiency
   d. realitic

4. What are the disadvantages of e-Learning and i-Learning? In terms of:
   a.Understandability c. Expensiveness
   b. Boring d. interactive

5. Is there a significant difference between e-Learning and i-Learning? In terms of the following:
   a. This method minimizes the risks (Risk Reduction).
   b. This method provides guided tours than being taught in a chalk and board scenario (Interactive).
   c. This method is more fun than a traditional learning environment (Enjoyment).
   d. This method helps retain more knowledge than the usual classroom environment (Retention).

6. This method would be preferable to be used to teach all of the subjects (Applicability to all subjects).

Theoretical Framework

This research would like to find the difference between traditional e-Learning and i-Learning through the perception of Filipino maritime students. e-Learning methods could be used as a supplemental tool for education. The Hermann Ebbinghaus forgetting curve stated that a learner's absorption rate is at 100% on the first day and loses 50-80% on the second day (Hu et al.,2013), and the retention rate decreases as time passes by, resulting in just 2-3% at the end of thirty days (Barnard, 2017).

According to Siemens (2005), "chaos is a new reality for knowledge workers," as gaining knowledge has started to become obsolete in this digital age. Thus, an alternative learning theory was developed by George Siemens (2005) that may help learners of today adapt to the rapidly changing and developing modern age. Various educational designs had been implemented over the years; one of these is "connectivism." Connectivism Theory is learning theory putting emphasis on the individual as a starting point of learning in the learning cycle (Siemens, 2005, as cited in Kop & Hill, 2008); however, the role of network, especially in the digital age is also vital (Siemen, 2005, para. 8, as cited in Kop & Hill). An individual immersed in a learning community or "nodes" (Downes, 2008, as cited in Kop & Hill, 2008) decides on choices that are based on "rapidly altering

foundations," founded on an impact of learning as a goal.

With the advancement of technology, a new concept of "schooling, teaching, and learning" was introduced: education 4.0 (Montealegre, 2019). It is one of the technological breakthroughs of this modern age that is the result of various researches and scoping reviews that had been conducted to see the future of education with technology. Additionally, Dadios et al. (2018) mentioned that the country craves for a "solid basic foundation of sustained learning," and to be able to implement this, the country should be able to bridge the existing technological and knowledge gaps.

The research aims to determine the difference between e-Learning and i-Learning through the perception of Filipino Maritime Students. The research is based on Connectivism Learning Theory that aspires to make learning a "network phenomenon, influenced, aided, and enhanced by socialization, technology, diversity, the strength of ties, and context of occurrence" (Mackness & Schofen, 2012). Additionally, Education 4.0 aims to establish a system with a holistic approach to education aligning with the continuous emergence of technology ("Preparing for Education 4.0," n.d). With these components, this research may be able to contribute to creating a quality and equitable educational system.

Conceptual Framework

The study targeted to determine the difference between traditional e-Learning and i-Learning through the perception of Filipino maritime students of the Philippine Merchant Marine Academy (PMMA) on Educational Designs. Indicated below is a figure to represent the variables used.

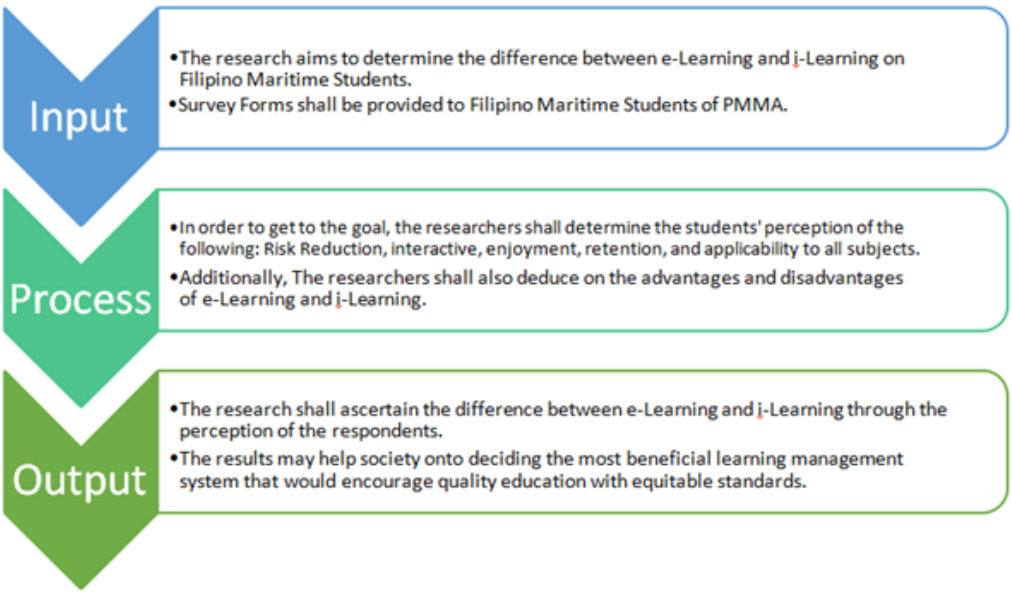

Figure 1. Difference between traditional e-Learning and i-Learning through the perception of Filipino Maritime students

This research determined the difference between traditional e-Learning and i-Learning through the perception of Filipino maritime students on Educational Designs. e-Learning is operationally defined as a comprehensive solution for education that provides competency management

systems with a modularized design that can be accessed through various electronic gadgets such as computers, laptops, tablets, and smartphones. On the other hand, i-Learning is identified as immersive learning. This term is used for a new method for education that creates an integrative and interactive environment for learners. This can also be distinguished as an educational approach to motivate students to learn by using video game design and game elements in learning environments.

This study aimed to acquire the different perceptions of students through a survey. The data collated on the survey was statistically analyzed and interpreted to find out the difference between the traditional e-Learning and immersive learning based on their perceptions. Furthermore, the survey also assessed the perception of students on the advantages and disadvantages of e-Learning and i-Learning.

Methodology

Participants

The participants of this study consisted of 192 maritime students of the Philippine Marine Merchant Academy within deck and engine departments. The research employed convenience sampling method to collect the necessary data.

Maritime students were chosen to be respondents of this research because the maritime focuses on researches on maritime institutions. Maritime industries had also frequently used simulators and various technologies to teach and train their students. These technologies help them to have an overview of what to expect once they board a real ship. This is beneficial for the students who have a brief background on technology-based learning.

Procedure

The study was conducted using a survey form that was answered by the respondents. The data was gathered at the Philippine Merchant Marine Academy (PMMA) in San Narciso, Zambales.Before the distribution of the survey questionnaires, the researchers provided a brief discussion about e-Learning and i-Learning. Once accomplished, the questionnaires were returned immediately to the researchers.The researchers encoded the data that was statistically analyzed.

The following are the statistical treatment provided to analyze the data:

Descriptive Statistics

This statistic had been used to identify the frequency and percentages of the following objectives:

1. What is the demographic profile of the respondents in terms of:
    a. Gender b. Department
2. What are the devices most commonly used by the respondents? Particularly :
    a. Smartphone
    b. Tablet
    c. Laptop
    d. PC/MAC

e. Game consoles
f. Smart watch
g. Others

3. What are the advantages of e-Learning and i-Learning? In terms of:
   a. Cost-effectiveness
   b. Interactivity
   c. time-efficiency
   d. realistic
4. What are the disadvantages of e-Learning and i-Learning? In terms of:
   a. Understandability
   b. Boring
   c. Expensiveness
   d. Non-interactivity

Multivariate Analysis of Variance (MANOVA)

This statistic had been particularly used to determine the difference between e-Learning and i-Learning among the perception of maritime students within the following terms:

a. This method minimizes the risks (Risk Reduction).
b. This method provides guided tours than being taught in a chalk and board scenario (Interactive).
c. This method is more fun than a traditional learning environment (Enjoyability).
d. This method helps retain more knowledge than the usual classroom environment (Retention).
e. This method would be preferable to be used to teach all of the subjects (Applicability to all subjects).

MANOVA had been specifically used to this study due to the number of variables used during the research. The MANOVA is used to take into account the multiple continuous dependent variables and bundle them into a weighted linear combination or composite variable. This statistic determines the difference between groups or levels of the variables. MANOVA essentially tests whether the independent grouping variable simultaneously explains a statistically significant amount of variance in the dependent variable (Tabachnick & Fidell, 2012).

Results and Discussion

This research would like to determine the difference between traditional e-Learning and i-Learning through the perception of Filipino Maritime students. The following figures are the results of the study conducted.

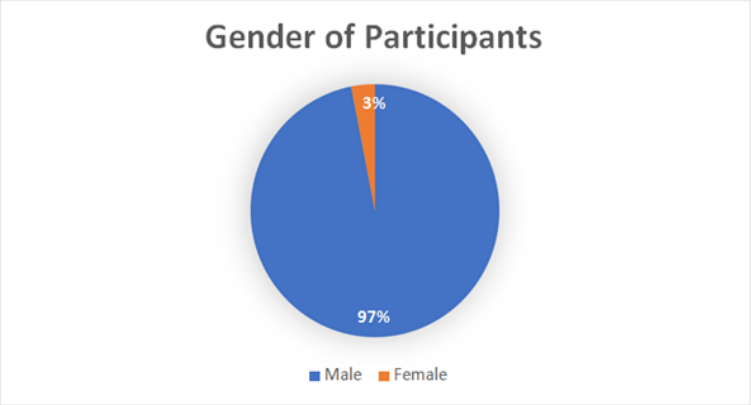

Figure 2.1 Gender of the respondents

Indicated in the figure above is the gender of the 192 respondents during the survey. Almost all (96.4%) of the participants were males and 3.1% were females. The percentage of women seafarers are in constant increase but still at a small percentage. The International Transport Workers' Federation's current statistics represent that women make up only an estimated 2% of the world's maritime workforce (Dragomir & Surugiu, 2013).

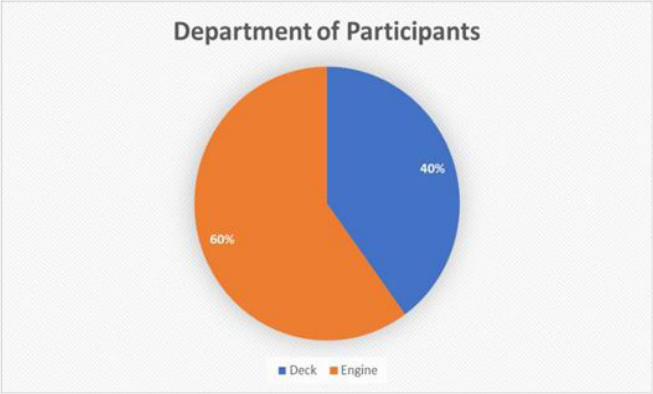

Figure 2.2 Departments of the students

The researchers employed the convenience sampling technique. The result (Figure 2.2) shows that among the 192 students, 60% of them are from the engine department while the remaining 40% are students under the deck department.

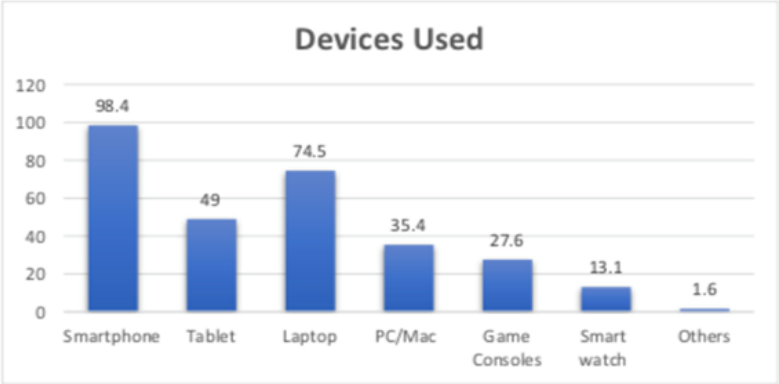

Figure 2.3. Devices commonly used by the respondents

Figure 2.3 shows devices that were commonly used by the participants. It indicates that smartphones (98.4%) had been the most commonly used device among maritime students. Laptop (74.5%) is the second gadget most commonly used by these students. The other remaining devices are tablet (49.4%), PC/Mac (35.4%), game consoles (27.6%), Smart Watch (13.1%) as second to the least number of devices used by the students, and with the least number of device/s used are categorized under "Others" that includes virtual reality (VR) and other devices not included.

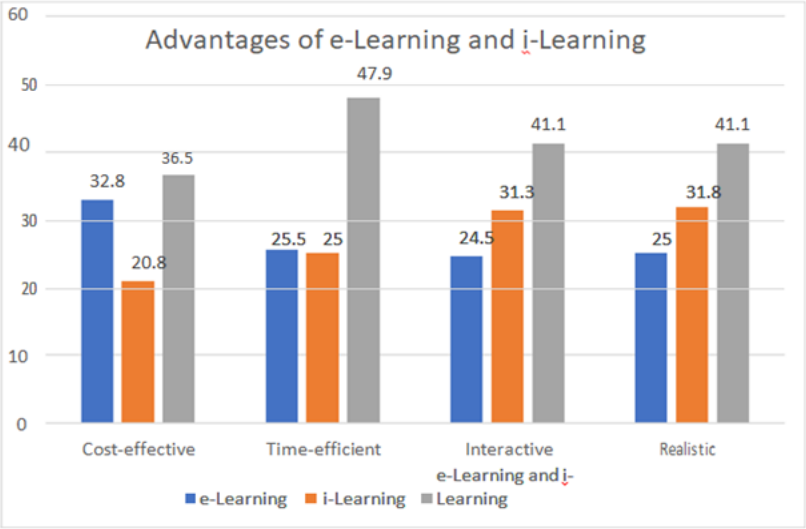

Figure 2.4. The Advantages of e-Learning and i-Learning

Shown in Fgure 2.4 are answers givent by the students when asked about the advantages of e-Learning and i-Learning. This indicated that time-efficiency is the most advantageous for both e-Learning and i-Learning with 47.9%. Both with 41.1% are interactive and realistic on e-Learning and i-Learning. Also, cost-effectiveness had been the least advantagous of the two factors. i-Learning seems to be more realistic (31.8%) and interactive (31.3%) than e-Learning as perceived by the students. e-Learning, however, is perceived as more cost-effective than i-Learning (32.8%). Lastly, time-efficiency is almost as high on both factors with e-Learning having a .5% difference than i-Learning.

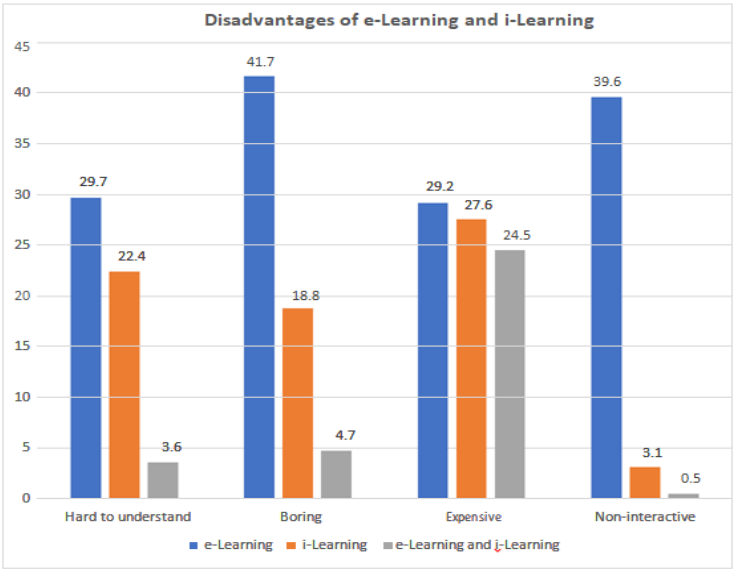

Figure 2.5. The Disadvantages of e-Learning and i-Learning

Figure 2.5 exhibits the disadvantages of e-Learning and i-Learning. Results representt that e-Learning is perceived as boring with 41.7% compared to i-Learning with only 18.8%. It is also non-interactive with 39.6% while i-Learning had 3.1%. e-Learning is also considered to be more expensive (29.2%) and harder to understand (29.7%) than i-Learning (expensive= 27.6% and hard to understand = 22.4%). The participants who perceived that both e-Learning and i-Learning are disadvantageous among the factors are of little percentages only. Particularly, hard to understand – 3.6%; boring – 4.7 %; expensive – 24.5% and; non-interactive - .5%. The remaining percentages not counted are those who did not indicate that the factors are disadvantageous for their learning.

Table 1.0. Descriptive Statistics of the Perception of Maritime students on e-Learning and i-Learning

Descriptive Statistics

	Respondents	Mean	Std. Deviation	N
Method minimizes risks during training	e-Learning	1.0573	.23301	192
	i-Learning	1.0521	.33535	192
	Total	1.0547	.28838	384
Provide guided tours compared to chalk and board scenario	e-Learning	1.0521	.22278	192
	i-Learning	1.0260	.31432	192
	Total	1.0391	.27238	384
More fun method than traditional learning environment	e-Learning	1.0833	.27711	192
	i-Learning	1.0469	.37303	192
	Total	1.0651	.32867	384
Method that retains knowledge	e-Learning	1.0573	.23301	192
	i-Learning	1.0156	.37565	192
	Total	1.0365	.31286	384
All subjects are taught in this method	e-Learning	1.1667	.40070	192
	i-Learning	1.1406	.48648	192
	Total	1.1536	.44527	384

Table 1.0 indicates that the mean and standard deviation of the respondents on their perception in e-Learning and i-Learning according to Risk Reduction, Interactive, Enjoyability, Retention, and Applicability to all subjects. The standard deviations shown stated that i-Learning seems to reduce risk (0.33535), provide guided tours (.31432), more fun (.37303), retain learning (.37565), and preferred to be taught in all subjects (.48648) than traditional e-Learning.

Table 1.2. Levene's test of equality of Error Variances

	F	df1	df2	Sig.
Method minimizes risks during training	3.690	1	382	.055
Provide guided tours compared to chalk and board scenario	.821	1	382	.365
More fun method than traditional learning environment	.805	1	382	.370
Method that retains knowledge	2.518	1	382	.113
All subjects are taught in this method	2.014	1	382	.157

***** Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Respondents

Meanwhile, Table 1.2 shows the differences between e-Learning and i-Learning according to the following: Risk Reduction, Interactive, Enjoyability, Retention, and Applicability to all subjects. The data appear to have no significant difference on e-Learning and i-Learning with an alpha level of 0.05, in terms of Risk Reduction (p>0.055), Interactive (p> 0.365), Enjoyability (p>.370), Retention (p>.113), and Applicability to all subjects (p>.157).

Conclusion and Recommendations

The research would like to identify if there is a significant difference between e-Learning and i-Learning through the perception of Filipino Maritime students. The study had been conducted to 192 maritime students of the Philippine Merchant Marine Academy (PMMA).

In conclusion, the respondents had more males than females. The participants are maritime students of the Philippine Merchant Marine Academy under the deck and engine department, in which the respondents have more engine department students than deck department students. The most commonly used devices by the respondents are smartphones and laptops. Majority perceived that both e-Learning and i-Learning are most advantageous at time-efficiency and least advantageous at cost-effectiveness and the respondents also perceived that i-Learning is more interactive and realistic than e-Learning. The results had also shown that the greatest disadvantage of e-Learning is that the method seems to be boring and non-interactive but both methods seem to be perceived as expensive. Lastly, the data had found that there is a difference between e-Learning and i-Learning but seem to be not statistically significant. e-Learning and i-Learning are new methods to gain knowledge and both are helpful once the individual is properly informed

and committed to it. The Connectivism theory emphasizes that learning is most effective when the learner is willing to learn. Either method is supplemental to acquire knowledge and can be used to help create a fair and quality system.

The researchers recommend that a variety of respondents may help achieve a more significant data, since this study was limited to the perception of Filipino maritime students from PMMA. It is preferable to test a learning management system where more objective data could be gathered than just the perception of students. Future researchers could also focus on one particular factor to emphasize the importance of each factor. Lastly, the researchers recommend that more studies shall be created regarding this subject to help create a system in education with quality and that fits with the modern age but is still encouraging a fair selection and measurement of knowledge.

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Massive Open Online Course (MOOC) Readiness of Pangasinan State University – Open University Systems Students

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Abstract

This study was conducted to determine the readiness of PSU-OUS students in Massive Open Online Course (MOOC) before its implementation in the institution. MOOC is an innovative online course available for anyone. It "provides an affordable and flexible way to learn new skills, advance student's career, and deliver quality educational experiences" (Mooc.org, 2009; Veermata Jijabai Technological Institute (VJTI, n.d. p.1) being utilized by prestigious institutions like UPOU and SEAMEO INNOTECH. Hence, MOOC's fusion to the different courses in PSU-OUS is promising and something to look forward to. The research used the descriptive method and the respondents were chosen through purposive sampling technique. To analyze and interpret the data gathered, the researcher used the weighted mean.

The majority of the students of PSU-OUS are female and are working in the government. Many of the respondents have less exposure to seminars relating to distance learning education while mostly of them are 21 – 30 years old, taking up Master of Arts in Education major in Educational Management and are receiving 21 – 30 thousand monthly.

The results reflected that students are slightly ready in downloading or installing programs or plugins such as Java, Adobe, Reader, Quick Time and etc., and they are also slightly ready in using Learning Management System like iFolio, SPIN, and Moodle. However, the results also showed that students are prepared on various aspects such as technology access, online skills, motivation, online audio/video and internet discussions. Therefore, the students of PSU-OUS are ready in the implementation of MOOC in the university.

Keywords: *MOOC, alternative learning, Massive Open Online Course, Open University, MOOC readiness*

Introduction

One of the best interesting innovations in online delivery learning is the Massive Open Online Course (MOOC). According to (Mooc.org, 2009; VJTI, n.d.), MOOCs are free online courses available for anyone to enroll and provides an affordable and flexible way to learn new skills, advance someone's career, and deliver quality educational experiences at scale.

The term MOOC was coined to as a course developed by Stephen Downes and George Siemens known as Connectivism and Connective Knowledge in 2008 (Siemens, 2004, as cited in Downes, 2012). Their intention was to exploit the possibility for interactions between a wide variety of participants made possible by online tools so as to provide a richer learning environment than traditional tools would allow. There were 25 students attended the course on the campus of the University of Manitoba, and a further 2300 from around the world participated online. MOOCs with an emphasis on interactions and connectivity are now called cMOOCS (Downes, 2012).

According Romualdo (2017), University of the Philippines Open University (UPOU) pioneered MOOCs in the Philippines. It was in July 2013—eight months after the New York Times dubbed 2012 as "The Year of the MOOC"—when the Faculty of Information and Communication Studies (FICS) – UPOU, in partnership with Smart Communications, Inc. (Smart), developed and offered

an introductory course on mobile application development using the Android platform to anyone who was interested, wherever they were in the world, free of charge (Romualdo, p. 21).

SEAMEO-INNOTECH also offers free courses via MOOCs such as Igniting Passion for Teaching and Teach On: Keeping the Passion Alive. In their website, they stated, (Seameo-Innotech, 2017, p. 2):

> "Teach On aims to rekindle and sustain teachers' passion for their profession. And while most continuing professional development opportunities focus on the tangible skills, the course provides an opportunity for teachers and educators to focus on and develop their soft skills. Learners will have the chance to cultivate their passion and love for the work they do thru the lessons and stories of fellow educators."

With the potential success and impact of MOOC in Open Distance Learning, it is high time that institutions like PSU-OUS take the initiative to embrace and adopt its system to be appreciated by online learners across the world. PSU-OUS is also aiming to adjust from blended learning program to fully online delivery, hence, this study is necessary to know whether or not the students are ready to online learning delivery through MOOC.

Statement of the Problem

This study determined the level of readiness of Pangasinan State University – Open University Systems students to Massive Open Online Course (MOOC).

Specifically, the researcher determined the following:

1. Profile of the faculty members in terms of:
    a. sex;
    b. age;
    c. course
    d. monthly salary/income
    e. work place
2. Number of seminars attended related to online distance education
3. Level of readiness in relation to :
    a. Technological Access
    b. Online Skills
    c. Motivation
    d. Online video/ audio
    e. Internet discussions
    f. Importance to success
    g. MOOC

Methodology

A two-part survey questionnaire was used in the study. The first part is the profile of the respondents and the second part is the level of readiness of students in MOOCs. Aside from written answers, the researcher also utilized a Google form that was transmitted through various social media platforms.

The respondents were chosen through purposive sampling techniques. To statistically analyze the results, the study used the weighted mean.

Profile of the faculty members

Out of 141 who were surveyed,102 or 72.3% of them were female PSU-OUS students while 39 or 27.7% were male. Most of them (46.1%) were 21-30 years old while some (34.8%) were in between 31-40 years old, 21 or 14.9% were in 41-50 years old, 5 or 3.5% were in 51-60 years old and only 1 (0.7%) is 60 and up years old. Master of Arts in Education had the biggest respondents with 66% followed by Doctor of Education 27.7%, and Master in Development with 6.4%. Moreover, majority of the respondents (39.7%) were receiving 21-3 thousand salary, 2.9% were obtaining 41-50 thousand salary, and the rest earn less than 10 thousand up to 40 thousand pesos. Majority of them around 103 or 73% were working in the government and 38 or 27% were in the private sector. There were more than half of the faculty (73%) who have a minimal number of seminars (less than five) attended related to online distance education while the rest (27%) had more than five seminars attended.

Overall, the level of readiness of PSU-OUS students in technology access (as an aspect of MOOC) is high with an overall mean value of (μ=2.89) as stated in Table 1.

Table 1. Level of Readiness of PSU-OUS students in MOOC (Technology Access)

Indicators	Mean	Description
1. I can use software such as Microsoft Office (e.g., Word, Powerpoint and Excel).	3.54	Very Much Ready
2. I can use a web-browser/search engine to navigate the Internet (e.g., Firefox, Safari, Internet Explorer, Google).	3.22	Ready
3. I can regularly access a computer or laptop each week for my course(s) (4 to 5 times a week).	3.21	Ready
4. I can access a printer instantly.	3.00	Ready
5. I can use headphones or speakers for courses that may have video conferences or require student-recorded presentations.	2.98	Ready
6. I can regularly access the Internet each week for my course(s) (4 to 5 times a week).	2.96	Ready
7. I can learn from various instructional formats (e.g., text, video, podcast, online discussions, video conferencing).	2.91	Ready
8. I can use a microphone for courses that may have video conferences or require student-recorded presentations.	2.73	Ready
9. I can use Learning Management System (iFolio, SPIN, Moodle, etc.)	2.20	Slightly Ready
10. I can download/install programs or plugins such as Java, Adobe Reader, Quick Time, etc.	2.18	Slightly Ready
Weighted Mean	**2.89**	**Ready**

The results in Table 1 indicate that the students are very much ready in the implementation of MOOC especially on technology access since they can use hardware (e.g. printer, speakers, computers for instructional formats such as video, podcasts, online discussion, video conferencing, etc.) and can operate software such as Microsoft Office, web browsers (Safari, Internet Explorers, Mozilla Firefox, Google, etc.), and search engines such as Google and Yahoo.

On the other hand, the results also show that the students are slightly ready in using Learning Management System (iFolio, SPIN, Moodle, etc.) ($\bar{x}$= 2.20) and in downloading/installing programs or plugins such as Java, Adobe Reader, Quick Time, etc. ($\bar{x}$=2.18).

Table 2. Level of Readiness of PSU-OUS Students in MOOC (Online Skills)

Indicators	Mean	Description
1. I know the basic skills to operate a computer (e.g. saving files, creating folders)	3.70	Very Much Ready
2. I can send an email with a file attached	3.70	Very Much Ready
3. I know the basic skills for finding my way around internet	3.52	Very Much Ready
4. I can communicate effectively with others using online technologies (e.g. chat).	3.50	Ready
5. I can use a computer several times a week to participate in the online discussion.	3.30	Ready
Weighted Mean	**3.55**	**Very Much Ready**

Table 2 shows how ready the students to the implementation of MOOC when it comes to their online skills. With a weighted mean of μ=3.55, the results show that the respondents are very much ready in knowing clerical work such as operating a computers (e.g. saving files, creating folders), sending an email with a file attached, and knowing the basic skills for finding my way around internet, and most especially ready in using online technologies (e.g. chat) and using a computer several times a week to participate in an online discussion.

While the results show that the students are skilled and thus very ready in MOOCs, an article review based on the data from a study of The Ohio State University shows otherwise. The result from this study states that since technological preparedness varies by race, class, gender, and academic background, college administrators must not assume student competence, but rather, should systematically assess incoming students and provide a variety of learning opportunities (O'Hanlon, 2018).

Table 3: Level of Readiness of PSU-OUS students in MOOC (Motivation)

Indicators	Mean	Description
1. I feel motivated when treated like unique individual with goals and interests during online discussions.	3.28	Ready
2. I feel motivated by relating something relevant in the news to the current lesson at hand	3.23	Ready
3. I can remain motivated even though the instructor is not online at all times.	3.15	Ready
4. I can complete my work when there are online distractions (e.g. friends sending emails or Websites to surf).	2.96	Ready
5. I can complete my work even when there are distractions in my home (e.g., television, children, and such).	2.94	Ready
Weighted Mean	3.11	Ready

Table 3 shows a positive result on motivation towards implementation of MOOC in PSU. The mean results show that they are motivated whenever treated like unique individual with goals and interests during online discussions, and whenever they contribute something relevant from the news to the current lesson. Also, despite the presence of online and home distraction and the absence of the online instructor, they are affirmative that they can still finish their work and perform their best in an online course. Thus, this indicated that their motivations towards online learning is high that they are ready for the implementation of the MOOC.

According to Littlejohn et al., (2018), learners' motivations and goals shape how they conceptualize the purpose of the MOOC, which in turn affect their perception of the learning process. The findings indicated a positive relationship between motivation gain, the number of messages posted to the online forums, and the number of members in the online study groups (Barak, Watted and Haick, 2016). Furthermore, the results imply that motivation as an aspect of MOOC, is somehow relevant to the learning process.

Table 4. Level of Readiness of PSU-OUS students in MOOC (Online Video/Audio)

Indicators	Mean	Description
1. I can open, share, download or upload an audio and video using the internet.	3.21	Ready
2. I can understand course related information when it's presented in video formats.	3.21	Ready
3. I prefer audio/video-enhanced lessons to make the learning experience much more robust, functional, and accessible.	3.05	Ready
4. I can relate the content of short video clips (1-3 minutes typically) to the information I have read online or in books.	3.01	Ready
5. I can use audio and video recording in reviewing missed and complicated lessons	2.99	Ready
Weighted Mean	3.09	Ready

As an important aspect of understanding MOOC, the researcher asked about how the respondent could understand and relate to videos/audios posted online. Based on the results (Table 4), they fully understand and relate on using videos/audios as a learning media format in online learning discussions; an indication they are ready to use MOOCs employing videos and audios as part of a teaching strategy.

Possible reasons on the very high readiness of students is the effect of video/audio discussion as stated other findings which learners reported that they tended to provide longer and more elaborate comments via audio/video discussion (Jolt.merlot.org, 2018). This finding supports prior research findings in the context of instructor offered audio feedback where instructors provided more examples (Merry & Orsmond, 2008) and richer language with more adjectives (Dagen, Matter, Rinehart, & Ice, 2008) in audio format than in written format.

The teacher's presence during the course his or her interactions with students and the quality of the videos presented are significant determinants of course completion (Gregori et al., 2018). Hence, the readiness of the students in the online video/audio in MOOC is significant.

Table 5: Level of Readiness of PSU-OUS students in MOOC (Internet Discussions)

Indicators	**Mean**	**Description**
1. I can carry on a conversation with others using the internet (e.g., internet chat, instant messenger).	3.33	Ready
2. I can follow along with an online conversation (e.g., internet chat instant messenger) while typing.	3.22	Ready
3. I prefer to have more time to prepare responses to a question.	3.12	Ready
4. I can learn writing skills in online discussions.	3.10	Ready
5. I can be comfortable having several discussions taking place in the same online chat even though I may not be participating in all of them.	3.08	Ready
Weighted Mean	**3.17**	**Ready**

Conceptual Framework

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

Table 5 is an indication that when it comes to online discussions, with a very high mean rate, the student are particularly ready to carry on with internet discussion since based on the results, they are comfortable and could learn in online conversation.
The readiness of the students is somehow high as disclosed from a finding that internet discussion forums are an easy-to-implement and didactically valuable supplement to classroom and electronic teaching concepts in pharmacology. They enable, particularly in a peer-teaching context, the active participation of students in teaching and thus are likely to improve the learning outcome of students (Sucha, Engelhardt, & Sarikas, 2013). On the other hand, other findings contradict as "online discussions with other students" and "email to and from other students" were rated low. This may reflect the traditional style of instruction, in which the instructor is the center of the learning experience, to which the students were accustomed (Services.unimelb.edu.au, 2018).

Meanwhile, in the results (Table 6), the students are very much ready in believing that frequent participation throughout the learning process is important to my success in online coursework and believing that prior experiences with online technologies (e.g., email, Internet chat, online readings) are important to my success in online coursework, both with $\bar{x}$=3.53. Further the students are ready in believing that ability to immediately apply course materials is important to my success with online courses, believing that regular contact with the Instructor is important to my success in online coursework, and believing that quick technical and administrative support is important to my success in online coursework with mean values of 3.48, 3.45, and 3.35 respectively.

Table 6: Level of Readiness of PSU-OUS students in MOOC (Importance to Success)

Indicators	Mean	Description
1. I believe that frequent participation throughout the learning process is important to my success in online coursework.	3.53	Very Much Ready
2. I believe that prior experiences with online technologies (e.g., email, Internet chat, online readings) are important to my success in online coursework.	3.53	Very Much Ready
3. I believe that ability to immediately apply course materials is important to my success with online courses.	3.48	Ready
4. I believe that regular contact with the Instructor is important to my success in online coursework.	3.45	Ready
5. I believe that quick technical and administrative support is important to my success in online coursework.	3.35	Ready
Weighted Mean	**3.47**	**Ready**

Based on the results, the student believe that the success of the implementation of MOOC relies on the level of participation and to student's prior experiences with online coursework, it is an indication that they are very much ready of MOOC. On the other, they also believe that immediate application, regular contact with the online instructors, and a support from technical and administration is an important aspect in the success of implementation of MOOC.

The results may be explained from a finding which indicates that although graduate students learned using the same technological tools as undergraduates, they desired a deeper level of learning that requires more instructional forethought and planning; student experiences were consistent with the constructivist theory, and implications for improving teaching based upon the constructivist theory are highlighted (Tandfonline.com, 2018).

The overall mean of all the aspects in MOOC indicated that the students very much ready when MOOC is implemented especially on the aspect of online skills. Meanwhile, the level of readiness of students are very high (indication of being ready) on the aspects of success, internet discussion, motivations, use of audio/video, and technology access.

This supports a study of Rajabi and Virkus (2018) which indicated that both students and academic staff of TLU had positive attitude in spite of some deficiencies and constraints of MOOCs. In addition, it seems that TLU has good resources and potential in developing MOOCs. Another similar study from Ventayen (2018) focused on teachers' readiness in online teaching environment, found out that teachers are indeed ready. On the other hand, Ventayen, Salcedo & Orlanda-Ventayen (2019) studied the senior high school students' engagement and readiness in e-learning environment where the findings showed that the students were engaged and ready.

Table 7: Level of Readiness of PSU-OUS students in MOOC

MOOC Aspects	Mean	Description
b. Online Skills	3.55	Very Much Ready
f. Importance to Success	3.47	Ready
e. Internet Discussions	3.17	Ready
c. Motivation	3.11	Ready
d. Online Audio/Video	3.09	Ready
a. Technology Access	2.89	Ready
Weighted Mean	**3.21**	**Ready**

Conclusions

From the preceding findings, the following conclusions are drawn:

The majority of the PSU-OUS students were female taking up Master of Arts in Education and were employed in the government service. Most of the students were young with 21-30 years of age, receiving 21-30k monthly salary and have limited exposure to seminars related to open distance education.

Thus, it can be concluded that if MOOC is to be implemented in Pangasinan State University, the students are ready since the study shows that they are ready in all the aspects of MOOC.

Recommendations

Based on the above-mentioned findings and conclusions, the following recommendations are

hereby presented:

1. The students should invest in participating seminars and trainings related to online learning education.
2. Pursue MOOC in the Open Distance Learning of PSU-OUS.

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Call for Articles

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

The preferred articles are those reporting original research, articles based on critical analyses of e-learning undertakings, book reviews, evaluation studies, and original think pieces such as concept papers.

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Article proposals are those that still need to be developed and researched. They are just ideas. You may submit your proposals to the IJODeL for consideration. Send it to the Chief Editor. If your proposed article is found by the Board of Editors of IJODeL to be worth pursuing, we shall encourage you to proceed with your idea at your own expense. The commitment that IJODeL can make is to consider your article as priority article for publication provided it goes through the standard procedure for which articles go through at the IJODeL.

For both the articles and proposed articles, follow the templates for articles.

Template for Quantitatively-Oriented Articles

Title of Article

Author 1[1]and Author 2[2]

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

Abstract

Abstract in 150-250 words.

Keywords: No more than five (5) keywords.

Introduction (Center Heading 1)

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

Objectives (Center Heading 2)

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

Conceptual/Theoretical Framework (Center Heading 3)

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

Methodology (Center Heading 4)

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

Results and Discussions (Center Heading 5)

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

Include subheadings as are necessary.

Conclusions and Recommendations (Center Heading 6)

Conclusions must be according to the objectives of the study.

Recommendations must reflect the objectives and conclusions of the study.

References

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

Template for Qualitatively-Oriented Articles

Title of Article

Author 1[1] and Author 2[2]

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

Abstract

Abstract in 150-250 words.

Keywords: no more than five (5) keywords

Introduction (Center Heading 1)

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

Objectives of the Study (Center Heading 2)

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

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

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

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

Discussions (Center Heading 4)

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

Conclusions (Center Heading 5)

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

Recommendations (Center Heading 6)

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

References (Center Heading 7)

Follow the APA Style Guide.

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 (page 69)

To submit an article, visit ijodel.com and follow the steps in the online submission system.