Action Research on College Students' Perception in the Context of a Massive Migration to Online Learning Due to the Pandemic

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**Abstract**

Action research designed was used to investigate the impact of a sudden full-scale shift to online learning of college students due to the pandemic. Significant differences on the following were noted: on students (1) personal commitment, the students’ course (program enrolled) and year level influence their decision making towards online learning- - their compliance on the given project-based activities; and their choice to pursue online learning despite the limited hardware and software resources. Concerning (2) study habits, the self- paced environment enabled students to strive and devote autonomously to pursuing higher education goals. The (3) Learning environment and (4) online learning readiness, showed the self-directed approach to online learning are affected by the students’ gender, course enrolled and year level. The perception on the characteristics and benefits of synchronous and asynchronous activities showed significant difference on the course enrolled and year level status. The research highlights the benefits of performing an assessment survey to determine students’ perceptions of a full-scale online learning environment as it enables teachers to contextualize and further plan their lessons and methodology. Addressing the possibility of students dropping out because they believe they cannot keep up with the demand for online education.

**Keywords**— online learning readiness, full-scale migration online, self-paced environment, online education.

1. **INTRODUCTION**

The coronavirus pandemic has altered human lifestyles, interactions, and relationships. Only a few countries have been able to reopen schools and universities while maintaining physical separation and the use of face masks—both of which are considered normal when interacting with other people.

The Philippines, on the other hand, remains on the opposite end of the spectrum, unable to hold physical education classes due to an increasing number of COVID-19 cases and a high infection rate.

The commission on higher education released Guidelines for the Implementation of Flexible Learning in September 2020. This represents a paradigm shift in the country's higher education teaching and learning processes. The need to call on its stakeholders to collaborate in order to embrace the new normal of culture of sharing knowledge, resources, and best practices.

In response to the Commission's guidelines, the Polytechnic University of the Philippines (PUP), as one of the leading state universities in the country, reopened its virtual doors to more than 70,000 students in its main campus, branches, and satellite campuses to mark the start of the academic year 2020-2021.PUP issued an advisory through its academic affairs office on the conduct of the Flexible Technology-Enhanced Learning (FLEXTEL) approach. FLEXTEL enables students with varying internet and device capabilities to participate to learn and choose from the Hybrid mode of instructions provided to them. Students have two modes of instruction available to them: online and offline. Students who have internet access and/or access to devices such as laptops, smartphones, and/or tablets are classified as being in the Online Mode. Learning is a process that incorporates both synchronous and asynchronous modes. Participation is strongly encouraged but not required in online video conferencing sessions.

Aside from PUP’s main campus in Sta. Mesa, Manila, the university has four other branches/campuses located within the National Capital Region--the PUP San Juan Campus, PUP Taguig Branch, PUP Paranaque Campus, and PUP Quezon City (PUPQC) Branch. In the center of the most populous city in the country, the Quezon City, PUP Quezon City Branch caters to more than 2000 college students offering five degree programs in Technology and livelihood education (BTLED), Information Technology (BSIT), Entrepreneurship (BSENT), Marketing Management (BSBA-MM), and Human Resource Management (BSBA-HRM). It also has a diploma course offering in Office Management Technology specializing in Medical Office Management (DOMT-MOM).

Although Quezon City is not the capital of the country, it is the largest city in terms of population and has the highest rate of coronavirus COVID-19 infection in the Philippines. This situation is one of the primary considerations of PUPQC in strictly monitoring its stakeholders, primarily its faculty and students.

Dr. Melissa Puno-Sarapuddin, PUPQC's branch physician, works tirelessly to keep faculty, administrative staff, and students informed of pandemic updates. With the assurance that a medical expert is looking after the health of its stakeholders, faculty and students can now focus on the facilitation of FLEXTEL. Enabling faculty and students to engage in a continuous exchange of knowledge.

According to the FLEXTEL approach, offline or correspondence learners will receive printed instructional materials via courier or a soft copy via email. The majority of students at PUPQC have chosen the online mode of instruction; students will have a minimum of six synchronous meetings with faculty and the remainder will be conducted asynchronously.

Choosing the online mode delivery of instruction among PUPQC students, gave the researchers the interest on their online skills readiness and their perception on characteristics and benefits of both synchronous and asynchronous learning of the PUP FLEXTEL approach during pandemic.

1. **Theoretical Background**

The study is underpinned to construct a framework based on the theoretical models proposed by Rogers (2003) called “Innovation-Decision Process” and by Davis (1986) known as “Technology Acceptance Model”. Both models explicitly described the process of the individual’s awareness, readiness and acceptability to appropriately utilize information about innovation. In this study emphasizing in the learners’ online readiness to seek and process information despite its limitation.

Rogers (2003) further explained in the innovation decision process specifically the awareness-knowledge stage on the vital role of motivation that drives the individual to be actively and innovatively involved in the learning process. Here, in this study; the learners’ motivation as manifested through its personal commitment and level of study habits.

More so, Davis (1986) described in his model the two major factors intentionally influenced the individual to use a certain technology in a manner that it can help him improve results based on its perceived ease of the use and usefulness of the technology. Basically, in this study the learners’ learning environment along with its familiarity and availability of the technology as online learners.

Acknowledging both Rogers (2003) and Davis (1986) vital concepts as described and illustrated in their models, the researchers conceptually captured those combined concepts introduced by them to show learners’ degree of online readiness to embrace changes and innovations along the implementations of the FLEXTEL Mode of Learning in Polytechnic University of the Philippines, where the respondents are bonafide students. Thus, the following construct research model was conceptualized.

1. **Study Framework**

The study intends to combine the concepts of Rogers (2003) on the awareness-knowledge and Davis (1986) on perceived usefulness and use of particular technology. The model below displayed that the student’s attempt to become adoptive and innovative along with the changes within the social system based on his level of awareness or acquired knowledge and perceived familiarity with the use of technology. Hence, the more the students are aware of the usefulness and use of online technology and platform, the more they are ready and pursue innovation works. Thus, in this study, the researchers hoped to consider behavioral factors such as students’ personal commitment, study habits, and readiness in online learning. The construct research model was conceptualized as reflected in Figure 1.



***Figure 1: Study Framework***

1. **Problem Statement**

The study established a benchmark for the Polytechnic University of the Philippines' hybrid learning mode, which employs the Flexible Learning Technology (FLEXTEL) approach. Specifically, the students' readiness to online learning and their perceived characteristics and benefits of synchronous and asynchronous learning as used by faculty at PUPQC branch locations. The following sub-problems were answered in this study: (1) what is the demographic profile of the students in terms of sex, program enrolled, year level, and current residence? (2) What is the online learning readiness of the students in terms of their personal commitment, study habits, learning environment, ease in using the computer, and the availability of hardware, software, and internet connectivity? (3) What is the student's perception on the characteristics and benefits of the PUP FLEXTEL approach using the synchronous and asynchronous learning activities? (4) Is there any significant difference in the online learning readiness of students when grouped according to demographic profile? (5) Is there any significant difference on perception of the characteristics and benefits of PUP FLEXTEL online learning in using the asynchronous and synchronous learning activities when grouped according to demographic profile? (7) What is the relationship on the students’ internet connectivity and their perception of the characteristics and benefits of PUP FLEXTEL online learning in using the asynchronous and synchronous learning activities?

1. **Methods**

***Research Design***

The study used quantitative research design in order to answer the descriptive, comparative, and relationship questions that are followed by a research’ null hypothesis. This helped the researchers to specify and narrow down the variables to describe and establish relationships between the students’ online readiness and the online learning activities.

***Instrument***

The study administered a structured questionnaire which has two parts. Part 1 is the demographic profile of the respondents such as sex, program enrolled, year level, and current residence. Part 2 of the questionnaire focuses on the online learning readiness of the students in terms of their personal commitment, study habits, learning environment, ease in using the computer, and the availability of hardware, software, and internet connectivity. Likewise, student's perception on the characteristics and benefits of the PUP FLEXTEL approach using the synchronous and asynchronous learning activities were included in the survey.

***Sampling Technique***

The study used Cochran (2005) in determining the sample size and used non-probability sampling, sometimes called convenience sampling since everyone that was asked was left to choose to be one of the respondents.

1. **Results**

When respondents were grouped according to Sex. It showed that majority of the respondents were female comprised of 375 (70.2%) of total respondents while only 159 (29.30%) are male respondents. In terms of program enrolled, 34.3 % of them were dominated by learners from Bachelor of Business of Technology and Livelihood Education, followed by Bachelor of Science in Administration major in Human Resource Management with 28.9% (152). The least number of the respondents comprised by 4.9% (26) came from Bachelor of Science in Entrepreneurship. On the other hand, the distribution of respondents when grouped according their Year Level, data showed that majority were third year college level with 42.7% (22.7) , followed by second year level comprised with 30.5% (163), first year level with 19.7% (105) and the least with the fourth year level with 7.3% (39). Lastly, when grouped according to their current residence, the majority of the respondents lived outside Metro Manila compromised by 42.5% (227), followed by those living outside with Quezon City which constitutes the 30.5% (163) and the least of the respondents where from Quezon City where the University was located. This may inferred that majority of the learners of PUP Quezon City catered diverse members who lived in the nearby provinces.

Respondents personally committed to pursue their studies despite struggles and difficulties experienced. The accumulated weighted mean of 3.39 and 3.26 for “I do not quit just because things get difficult and I finish project I start” respectively indicates that the respondents are adequate ready to face the challenging circumstances just to finish their studies in an online setting. In terms of study habits, respondents learn equally well in group or in their own especially if they have to engage themselves in reading. More so, this reveals that the respondents are inclined to study when they have copies of the learning materials with them to study either alone or with their peers. Students are self-regulated and motivated to learn when reinforced. Katelyn (2013) as by cited by Ebele, U. F., & Olofu, P. A. (2017) identifies fourteen positive study habits which students can engage in order to enhance their academic performance. Accordingly, reading and reviewing materials being covered in class supports the above results.

More so, the accumulated weighed mean of 3.38 for statement “I am willing to use email and other online tools to ask my classmates and instructors questions” and 3.30 for statements “I keep a record of what my assignments are and when they are due” indicates that in terms of their learning environment, respondents relied on the use of e-learning platforms especially email as learning tools to communicate with their classmates and instructors likewise in tracking and recording their academic tasks. This only implies that online learning is paramount to the use of various e-learning platforms as a medium to interact academically and to keep track of their assessment and performance. Furthermore, as depicted in the study of Kirkwood & Price (2014), use of online technology can enhanced learning however, as mentioned by Goodhue & Thompson (1995), appropriate and suitable technology is hereby recommended to comply the said task. As assumed, learners had an increased likelihood to use certain technology that meet their needs and capabilities. Hence, allowing them to receive feedback and individually improved their academic performance. Accordingly, Liu, F., Zhao, X., Chau, P. Y., & Tang, Q. (2015) explained people learn to change to fit in his immediate learning environment because of perceived usefulness of the platforms in productivity and performance.

In terms of the respondents’ easiness in using computer, the overall weighted mean of 2.82 with a qualitative description of “agree” indicates adequate familiarity of the students with the use of the e-learning platforms and technologies. Hence, allowing them to fairly feel confident and comfortable enough to utilize these platforms. As mentioned in the study of Lee et. al. (2014) that perceived usefulness of technology is significantly correlated with the intention to utilize it. Results revealed that in terms of the availability of the hardware, software, and internet connectivity of the respondents, the overall weighted mean 2.31 with a qualitative description of “disagree” connotes the unavailability to low technology gadgets and connectivity concerns of students. Students’ lack of adequate technologies and issues related to poor internet connection implies a negative impact for student belong in lower socioeconomic backgrounds (Montacute, 2020). This also implies that Polytechnic University of the Philippines Quezon City Branch as the locale of the study caters primarily vulnerable communities with economically disadvantaged students. Moreover, in the survey conducted with students in Vietnam during the pandemic shown that the unstable internet was considered the top concerns of students in an online learning (B and company 2020).

In terms of asynchronous learning activities, accumulated weighted mean of 3.143 with for the statements “I think it would be very easy for my teacher to provide a summary of the week's discussion and post for everyone to see” followed by 3.18 weighted mean for both statements “I think it would be very easy for my teacher to have an active presence in the discussion” and “I believe that in asynchronous online discussions the archived discussions and chats relieve participants of relying on memory or notes to recall what others have contributed. Archives also create opportunities for course participants to build upon prior discussions and enable those who missed a chat to later benefit from the discussion” respectively revealed that teachers have a vital and active role in assisting offline learning of students by providing them with necessary information and opportunities for healthy teacher-student engagements through open line communication. As depicted in the study of Anderson (2004), the ability for learners to receive immediate feedback from the teachers in an online environment enriches their academic capabilities. The overall mean of 3.11 indicates satisfactory level of agreement, hence; respondents could benefit through asynchronous learning mode when teachers actively engaged to provide offline discussions and follow up such as weekly synthesis of the topics discussed.

As reflected in the data, the accumulated mean of 3.32 and 3.21 for the statements “I believe that if it is a large class, synchronous sessions may be more challenging to manage student contributions. Consider breakout rooms if this is the case and how you wish to divide the class up into these rooms” and “I believe that it would be very easy for my teacher to consider how participants should prepare for the session and what activities might follow the session (i.e., asynchronous activity). Develop his/her own content for the session far in advance” respectively means that in terms of synchronous learning activities, students expect teachers to be more strategic in handling large class, such as having small group session and well-prepared class discussion. Accordingly, as suggested by Simpson and Du (2004), in synchronous online sessions, the active interaction and participation between students and teachers in the course affects the learning process.

The overall mean of 3.08 indicates satisfactory level of agreement, hence; the respondents could benefit through synchronous learning mode when they perceived that teachers are conscientious enough to engage students in online group session along with well-prepared lessons. This implies that teachers should provide the students with course syllabus as their learning guide.

1. **Discussion**

Despite the abrupt migration of education from face-to-face to online learning, students showed perseverance and determination to adapt to the changes. Learners showed an adequate degree of motivation to study; hence online learning is not a hindrance for them to continue their studies either alone or with peers. This implied that students are either self-regulated to pursue their goals in life or motivated to learn due to their support system in school. This was supported by Seemiller and Grace (2015), wherein students are incredibly passionate and driven ensuring that they meet whatever goals they choose to pursue. Moreover, as revealed by Hergüner et. al. (2020), one of the manifestations of learners’ optimistic attitude towards their studies was exhibited in their readiness for online classes. For this study, students’ conscientious decision to choose online learning rather than correspondence implied high regard for students to pursue their studies despite difficulties and socio-economic limitations.

Reflecting Rogers (2003) Innovation-Decision Process and Davis(1986) Technology Acceptance Model; today’s generation of students are indeed digital natives, hence despite that these learners belong to the disadvantaged and vulnerable communities with identified limitations such as having low technology gadgets and a poor internet connection, their adequate familiarity of the with the use of the e-learning platforms and technologies gave them that sense of confidence to readily accept the idea of online learning hence, a massive number of learners enrolled themselves as online learners rather than in correspondence mode. As mentioned in the study of Lee (2014) perceived awareness of the use of technology used is significant to improve their performances. More so, learners had an increased likelihood to use certain techniques that meet their needs and capabilities. Cheng, G., and Chau, J. (2016) explained people learn to change to fit in their immediate learning environment because of the perceived usefulness of the platforms in productivity and performance.

Meanwhile, as the FLEXTEL mode of learning is offered to wherein both synchronous and asynchronous delivery are demonstrated; students considered teachers with an active and responsive role in assisting them with their immediate concerns. Part of their expectations was to establish healthy teacher-student engagements through open line communication especially in asynchronous sessions. Accordingly, during synchronous learning activities, students expect teachers to be more strategic in handling large classes, such as having small group sessions and well-prepared class discussions. As suggested by Simpson and Du (2004), in synchronous online sessions, the active interaction and participation between students and teachers in the course affect the learning process. Likewise, as depicted in the study of Anderson (2004), the ability for learners to receive immediate feedback from the teachers in an online environment enriches their academic capabilities. Since students significantly considered the importance of teachers as one of their support group in this remote learning, teachers must ensure that these e-learning platforms were explored and well-navigated to enable them to maximize their uses and to strategically deliver their lessons both in synchronous and asynchronous mode. Providing organized, open communication and real-time facilitation impact better learnings outcomes thus, implying satisfaction with the teaching and learning process and possible massive migration to online learning and increased retention rate.

1. **Conclusion**

Educators’ active and responsive role in facilitating the learning process in the New Normal allows students to migrate to online learning. Even with the presence of impediments experienced by them, students demonstrated a level of optimism to continue their schooling. Hence, allow them to readily accept and embrace changes and innovation in e-learning.

Thus, even in this world full of disruptions, online learners properly guided, facilitated, and communicated by their teachers implied a degree of satisfaction and retention.

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