Motivation and Learning Strategies of Education Students in Online Learning during Pandemic

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ABSTRACT

The motivation level to learn of the college students was affected by the sudden implementation of online learning due to the COVID-19 pandemic. All schools are closed for face to face classes to prevent the transmission of the virus. The sample included the total enumeration of 196 education students currently enrolled at Polytechnic University of the Philippines-Ragay, Camarines Sur Branch for the First Semester of the School Year 2020-2021. Data was obtained using the Duncan and Mckeachie (1991) Motivated Strategies for Learning Questionnaire (MSLQ) modified into Google Survey Form. Descriptive statistics, One-Way Analysis of Variance, and Pearson's correlation have been used to interpret results. The findings revealed that the students Agreed that they are motivated to learn during the online classes and Often Utilized the learning strategies to support self-paced learning. Furthermore, there is no difference in the level of motivation among students' courses, and no correlations exists between the motivation and learning strategies and the characteristics of the respondents except in the Control of Learning Beliefs and the Year Level of the students. The findings imply that students can be motivated in online learning despite the hindrance through proper support, assistance, and encouragement. Furthermore, similar research can be conducted to compare the motivation and extent of the utilization of the learning strategies among the basic education and higher education students both from the public and private sectors.

Introduction

As COVID 19 Pandemic affected all aspects of the society, it greatly affected all educational systems wherein the traditional classroom set-up was altered instantly. Face-to-face learning was halted, and online, blended, flexible, homeschooling, modular, asynchronous, synchronous, and technology-aided learning became the trend in an instant. And due to the continuous rise of positive COVID-19 cases in the Philippines, the government, through the Department of Education and Commission on Higher Education of the Philippines, implemented various policies to advocate the use of alternative modalities in delivering lesson content basic education to higher education institutions. COVID-19 forced the teachers and academic institutions to revolutionize and prepare their classrooms set-up to support online and distance learning or known as "New Normal Teaching."

In the present study, the Presidential Declaration of a lockdown or commonly known as Community Quarantine in the Philippines, on March 16, 2020, affected the normal set-up of learning delivery among the higher education institutions in the country.

Due to the COVID-19 pandemic, concern about maintaining quality education becomes a global concern. [1] developed a Global Learning Model that supports the innovative and integrated strategy to capacitate online learning. They developed a content and delivery iterative process of education and feedback to implement online platforms in distance education. It includes ICT, Global Perspective, Multidirectional learning, focuses on more educational advances and lifelong learning through career progressions that learners can use to allow learning to happen by adopting the ladder-like paradigm towards the student to professional up to teacher and leader. Also, incorporating any technology in an open distance and e-learning environment will play a crucial role in creating educational opportunities and access to information using any available device and platforms that can be used at home [2].

Since the emergence of open educational resources in teaching, opportunities for the increased personalization of educational resources using available and affordable platforms can impact and continue the teaching and learning despite pandemic issues. [3] studied the E-Learning Readiness of the university students in Online Distance Learning and found-out that the COVID-19 pandemic suddenly and quickly changed the normality of education to distance education. As its quick transition will carry a wide range of challenges, both infrastructure and readiness of schools to shift to distance education within a very limited period. Hence teachers should consider analyzing all education steps necessary to supplement the quality of learning activities using online platforms. Similarly, [4] studied the predictive function of students' e-learning style and e-learning preparation that revealed that they could easily manage their time, maximize effort, and organize their learning by using innovative technology in teaching like the use of social media. Furthermore, [5] examined the e-learner's preferences and readiness satisfaction using a holistic approach and found that flexible structures that can be used in online and distance learning can ultimately lead to the satisfaction used as LMS in delivering the instructional content while maximizing its usability. It is further supported by [6], who posits that teachers should be engaged in all aspects of Open Educational Resources in finding, composing, adapting, and reusing the platforms

available for online distance education. Furthermore, [7] opined that teachers should utilize the existing digital educational resources to gain increased access among students. It ensures learning opportunities assured by the use of open technology and new, open-ended pedagogical methods that may integrate into the curriculum any major change of pedagogical practice. Also, [8] emphasized that learners should be provided with opportunities to customize their learning using innovative approaches and other possible ad available communication platforms to build stronger connections to prevent dropping-out from school using socio-technological changes by the internet. Thus, Using innovative teaching mode like Facebook, which serves as the most common form of interconnectivity between people that can transform education under the new normal despite distance and pandemic. Hence, digital connectivity may be used to affect the teaching services in the university. [9] studied ways on how to deliver the expected curriculum outcomes, even students are confined at home due to community lockdowns. However, [10] opined that in e-learning options available, teachers should carefully consider the diverse ecologies of learners and create a space that can support their different characteristics and level of expertise. Thus, teachers should utilize self-learning activities during online learners since they learn differently, especially outside of their usual and traditional learning environments.

Furthermore, distance learning modalities abruptly changed students and educators' perceptions towards online or distance learning. However, this can help educators and school administrators and the students and their parents change their pedagogical beliefs in using distance learning in completing their courses. However in e-assessment and online learning in higher education, student engagement and learning methods remain key problems. Careful application of e-learning by analyzing the inspiration and learning methods of students should also be carried out to better measure their preparation and optimize the authentication process as a primary investment in the learning process. Therefore, because of the COVID-19 pandemic, it should be maintained that learning occurs in a positive and creative atmosphere brought on by distance learning.

Several types of research were conducted to better understand student motivation during online-classes due to COVID-19. [11] discussed the global future of the COVID-19 pandemic for the lives of 30,383 higher education students from 62 countries was discussed. It showed that the global lockdown influenced the online learning of students, but they were pleased with the help provided by their universities and teachers. In addition, the respondents were mainly worried that their future professional career and research could be impaired by the pandemic transition and their learning is affected by their boredom, fear and anger. Furthermore, [12] found out using the structural equation model that the academic performance of human resources students in Mexico is greatly affected by sunlight, noise, and temperature levels. Similarly,[13] investigated the readiness of students for e-learning and their academic performance, and found out that they are ready for a pedagogy of learning tools, course materials, and resources, as well as their access to digital works. Also, they promised that the learning experience of the students on online learning pedagogy

could be transformed through their own responsibility. In addition, [14] during the COVID-19 pandemic, 65 teachers in numerous cities in Turkey researched the complexities of distance education. Their study revealed that internet access and lack of infrastructure, classroom management, and human resources challenges the participants' readiness while they asked help from colleagues, experts, and family members and communicate with the parents and students to address properly their challenges being faced and [15] reflected the impacts of COVID-19 pandemic to the inequalities in higher education in Brazil. They contemplated that access, performance, and training of teachers from academic institutions, both public and private higher education, affected poor and miserable classes' access to quality education due to online learning brought about by the Covid-19.

As related to the condition of the study's locale, [16] reported the different policy responses from higher education institutions in the Philippines during the COVID-19 pandemic and equate it with higher education institutions in the ASEAN countries. It was observed that there are gaps and challenges in the alternative learning mode and technologies to support online education, hence recommending a policy implication supported to the sensitive call of the times like pandemic and community-lockdown. Similarly, [17] posited that university partnerships, student internships, and student mobility and internationalization were affected by the Covid-19 pandemic. Hence, to avoid full closure in the long-run due to pandemics, staggered opening in a certain part of the semester like a lecture, splitting classes into small groups, and increased spacing to reduce social contact can prevent the transmission while slowly introducing the return of classes. [18] introduced the concept of network education and hybrid education to aid the university's physical and virtual learning during the pandemic as virtual learning can be a cheaper form of higher education, making it a methodological alternative. Likewise, [19] studied online learning perception among the 239 students in Bina Bangsa University. It was revealed that most of the students are willing to take part in online learning since it is a relatively good outlet in learning despite the obstacles that affect their improvement of the transfer of knowledge. Wherefore, [20] proposed a conceptual framework that can predict the factors that affect learners' academic performance during e-learning, which included the teaching methods, psychological factors, proficiency level, and language skills. The aim of this study is to determine the degree of motivation and strategies for learning. of Education students of Polytechnic University of the Philippines, Ragay, Camarines Sur Branch and to test its significant differences among courses and its correlates to the respondent's Age, Course, and Year Level for the First Semester of School Year 2020-2021.

Materials and methods

Research design and sample

This study utilized a descriptive design to examine the Motivation and Learning Strategies of Education Students in Online Learning during Pandemic of Polytechnic University

of the Philippines-Ragay, Camarines Sur Branch. The researcher utilized a total enumeration of 196 samples from the Bachelor in Elementary Education students and Bachelor in Secondary Students major in English. The study population was purposively selected based on the inclusion criteria, which is the currently enrolled students at the said university branch. Out of 196, 101 are Bachelor in Secondary Students major in English, and the remaining 95 students are Bachelor in Elementary Education students.

Research instrument

The research instrument used to collect data was developed by Duncan and Mckeachie (1991) named "Motivated Strategy in Learning Questionnaire (MSLQ). It is a self-report method intended to determine the motivational orientations of college students and their use of multiple learning techniques for a college course. A general cognitive view of inspiration and learning methods is based on the MSLQ. The general theoretical structure that underlies the MSLQ[21] is introduced by McKeachie, Pintrich, Lin, & Smith (1986). Both the measurements are based on a seven-point scale, according to the advocates, but updated into a 5-point scale by the researchers. While certain things were negatively worded, these questions were reversed by the supporters so that, in turn, a higher score such as a 4 and 5 is greater than a lower score such as a 1, 2, or 3. The only difference is the scale of exam anxiety, where a high score is more worrisome. For each scale, a student's average score in the class and the breakdown of the scores for the bottom 25 percent, middle 50 percent and the top 25 percent are given. Most students in the class report greater enthusiasm or use of learning techniques than the participant, whether the student score is at the bottom 25 percent on a scale. If the score is 50 percent in the middle, so the respondent is like other students. If the respondent's ranking is in the top 25 points, they are more motivated than other students, or have more learning techniques. If they are below three on more than six of the nine measures, they may want their teacher or the counseling resources of the university to get support.

The researchers devised a simple Demographic Data Recording Form to collect a range of the respondent's demographic profile such as age, sex, and year level.

Procedure

The local research ethics board approved the Polytechnic University of the Philippines-Ragay, Camarines Sur Branch. The Office of the Branch Director and Academic Head gave their permission to collect data from the Education Students enrolled in the said branch. Before taking part in the study, informed consent was issued to all respondents.

The researchers converted the questionnaire into a Google (Survey) form prior to the data collection. A sample of 15 students of Bachelor of Information Technology students was asked to rate their Motivated Strategies for Learning to examine the discrepancies, difficulties, and suggestions. The data were collected from August to September 2020.

Data analysis

The data were analyzed using descriptive, inferential, and correlational statistics. Analysis of Variance (ANOVA) was used since the data is normally distributed. ANOVA was then used to test the differences in motivation and learning methods between courses, age and Year Level and the correlation of Pearson's was used to determine the relationship between education motivation and learning strategies students.

Results and discussion

Sample Characteristics

Of the 196 Education students, 101 (51.5%) were the Bachelor in Secondary Education major in English while the remaining 95 (48.5%) were the students of Bachelor in Elementary Education. Most of the respondents were First Year, with 68 (34.7%) while the Second Year were 70 (35.7%) and 58 (29.6%) for the Third Year. It can be noted that there was no Fourth-Year student due to the K to 12 Program transition in the college. Meanwhile, most of the students were 19 years old, with a frequency of 62(31.6%).

The motivation of education students in Online Learning during COVID-19 pandemic

Using the MSLQ instrument [21], both groups of students in education were asked to score their level of motivation. With an average mean of 3.80 (SD 0.64), the motivation ratings vary from 1-5. Worth Orientation of 4.21 (SD 0.62) was the strongest motivation for Secondary Education students during the online courses. In Self-Efficacy for Learning and Success with 3.32 (SD 0.63), they were the least inspired. Although they were equally strongly motivated in the Value Orientation with 4.15 (SD 0.57) for elementary education students, and they were least motivated with 3.37 (SD 0.57) in the Self-Efficacy for Learning and Performance. The secondary education students (mean: 3.82, SD 0.67) were more inspired by comparing the mean scores of the two groups than the elementary education students, with an overall mean of 3.79 (SD 0.62).

Table 1 Motivation of Education students in Online Learning during COVID-19 pandemic measured using the MSLQ instrument, comparing the Secondary Education students with Elementary Education students.

Motivation	Secondary Education students (N=101)			Elementary Education students (N=95)			Average		
	Mean	SD	Level	Mean	SD	Level	Mean	SD	Level
Intrinsic Goal Orientation	3.76	0.60	Agree	3.72	0.55	Agree	3.74	0.58	Agree
Extrinsic Goal Orientation	3.93	0.82	Agree	3.84	0.73	Agree	3.89	0.78	Agree
Value Orientation	4.21	0.62	Strongly Agree	4.15	0.57	Agree	4.18	0.60	Agree
Control of Learning Beliefs	3.96	0.68	Agree	4.03	0.64	Agree	3.99	0.66	Agree
Self-Efficacy for Learning and Performance	3.32	0.63	Moderately Agree	3.37	0.57	Moderately Agree	3.34	0.60	Moderately Agree
Affective Component-Test Anxiety	3.73	0.65	Agree	3.62	0.64	Agree	3.68	0.64	Agree
Average	3.82	0.67	Agree	3.79	0.62	Agree	3.80	0.64	Agree

Learning Strategies of Education students in Online Learning during COVID-19 pandemic

Table 2 Learning Strategies of Education students in Online Learning during COVID-19 pandemic measured using the MSLQ instrument, comparing the Secondary Education students with Elementary Education students.

Learning Strategies	Secondary Education students (N=101)			Elementary Education students (N=95)			Average		
	Mean	SD	Level	Mean	SD	Level	Mean	SD	Level
Rehearsal	3.85	0.75	Often	3.86	0.66	Often	3.85	0.71	Often
Elaboration	3.91	0.62	Often	3.83	0.65	Often	3.87	0.64	Often
Organization	3.79	0.71	Often	3.88	0.68	Often	3.83	0.70	Often
Critical Thinking	3.70	0.56	Often	3.65	0.52	Often	3.68	0.54	Often
Self-Regulation	3.83	0.54	Often	3.78	0.54	Often	3.80	0.54	Often
Time and Study	3.79	0.51	Often	3.78	0.44	Often	3.78	0.48	Often
Effort Regulation	3.34	0.63	Sometimes	3.31	0.60	Sometimes	3.33	0.61	Sometimes
Peer Learning	3.25	0.78	Sometimes	3.29	0.69	Sometimes	3.27	0.74	Sometimes
Average	3.69	0.64	Often	3.69	0.60	Often	3.69	0.62	Often

Both groups of Education students were asked to rate their level of utilization of learning strategies during online learning using the MSLQ instrument [21]. The utilization of learning strategies scores ranges from 1-5, wherein five is the most utilized. The average of both groups got an over-all mean of 3.69 (SD 0.62) and verbally rated as Often Utilized. For the Secondary Education students, their highly utilized learning strategy during the online classes was the Elaboration with 3.91 (SD 0.62) but least utilized the Effort Regulation 3.34 (SD 0.63) and Peer Learning 3.25 (SD 0.78) that were rated as Sometimes. An almost similar result was observed among the Elementary Education students that least rated the Effort Regulation 3.31 (SD 0.60) and Peer Learning 3.29 (SD 0.60) as the least utilized learning strategies. At the same time, Organization was the most utilized strategies with 3.88 (SD 0.68). When comparing the mean scores of the two groups, both groups got an average mean of 3.69 and verbally rated as Often. Thus both Secondary Education students and the Elementary Education students Often utilized learning strategies even during the online learning, which happened to be with very minimal interaction with peers and their teachers.

The difference between the motivation and learning strategies of Education students

Using the Motivated Strategies for Learning Questionnaire (MSLQ), created by Duncan and Mckeachie (1991), to find the difference between the level of motivation of secondary

education students and elementary education students. The results found that there was no substantial difference between the self-rated motivation level of students in education (F=0.62, p=0.47) and their learning methods (F=0.830, p= 0.618).

Table 3 difference between the motivation and Learning Strategies of Education students in Online Learning during COVID-19 pandemic.

Motivation	Computed F	p-value
Intrinsic Goal Orientation	0.314	.58
Extrinsic Goal Orientation	0.635	.43
Value Orientation	0.385	.54
Control of Learning Beliefs	0.525	.47
Self-Efficacy for Learning and Performance	0.322	.57
Affective Component-Test Anxiety	1.536	.22

Learning Strategies	Computed F	p-value
Rehearsal		
Elaboration	1.289	.23
Organization	.681	.76
Critical Thinking	.850	.59
Self-Regulation	.579	.86
Time and Study	.673	.76
Effort Regulation	.732	.71
Peer Learning	1.112	.35

The correlation between the motivation and learning strategies of Education students and their Course, Year Level and Age

To find the correlates between the Secondary Educations students' motivation level and Elementary Education students and their Course, Year Level and Age was also examined. The findings revealed that from among the self-rated level of motivation among the education students and their characteristics, only the Year Level and the Control of Learning Beliefs was the only variable with a significant relationship (r=0.196, p=0.006). In contrast, the other variables under the motivation and learning strategies do not flag significant relationships to the respondents' student characteristics.

Table 4. Correlation between the motivation and learning strategies of Education students and their Course, Year Level and Age

	Course		Year Level		Age	
Motivation	R	p-value	r	p-value	r	p-value
Intrinsic Goal Orientation	-.040	.576	.076	.287	.053	.463
Extrinsic Goal Orientation	-.057	.427	-.087	.224	.054	.456
Value Orientation	-.044	.536	.091	.204	.055	.447
Control of Learning Beliefs	.052	.469	.195**	.006	.086	.229
Self-Efficacy for Learning and Performance	.041	.571	.094	.191	.091	.205
Affective Component-Test Anxiety	.008	.217	.013	.852	.048	.508
Learning Strategies						
Rehearsal	-.062	.911	.095	.187	.029	.690
Elaboration	.064	.386	.070	.333	.024	.735
Organization	-.041	.566	.107	.137	-.035	.626
Critical Thinking	-.050	.485	.084	.244	.090	.212
Self-Regulation	-.011	.874	.019	.794	.045	.532
Time and Study	-.019	.790	-.003	.971	.059	.408
Effort Regulation	.027	.705	-.081	.971	-.022	.756
Peer Learning	.033	.647	-.088	.261	.058	.418

Discussion

This research established the motivation and learning strategies of education students studying in a branch of the State Polytechnic University in the Philippines. Their motivation and learning strategies are based on the Motivated Learning Questionnaire (MSLQ) Strategies, created and published by Duncan and Mckeachie (1991). It is a self-report method intended to determine the motivational orientations of college students and their use of multiple learning techniques for a college course. A general cognitive view of inspiration and learning methods is based on the MSLQ.

The findings revealed that the education students' motivation level is within the middle 50% and up to 25% as measured by the MSLQ when classified into the breakdown of the scores for the bottom 25%, middle 50%, and the top 25%. Thus, they are motivated to utilize learning strategies in their online classes. As further explored in this study, both courses' motivation level is within a similar level as revealed by the test of significant differences between their motivation and their course. Furthermore, their intention and motivation to utilize the nine types of learning strategies are within the same level as supported by the test of significant differences between their learning strategies and their course.

The similarity of the significant difference was further explored using the test of the relationship between the motivation and learning strategies as to the profile of the students as to their age, course, and year level. It was revealed that the Control of Learning Beliefs is significantly related to their year-level, thus implying that as the student progresses or nearing to the completion of their courses, their control of learning beliefs is also affected, thus higher years can control most their motivation and learning strategies.

The correlation between the students enrolled in two educational courses delivered at the site of the study demonstrated the same degree of motivation and motivation to use different learning strategies. In the current research,

when the student unexpectedly shifts their learning modality to respond to the community lockdowns introduced by the pandemic, in the unforeseen paradigm shift, policies and resources for online classes are considered significant. This may explain why, due to their level of enthusiasm and exposure and their capacity to use different learning methods for online learning, some students have lost interest in enrolling in this academic year. Despite age, course, and level of year a better motivation level indicates better use of learning strategies.

On the other hand, the control of learning beliefs can affect the motivation level and the motivation to use the learning strategies in online learning during a pandemic. Hence, teachers and academe and the parents and support mechanisms of learners, should support the necessities needed by learners like mobile devices and mobile networks for online learning and the home environment or climate that can make learners improve their interest in the learning of their courses. The government should also promptly respond to the students in basic education and higher education needs during and even before the implementation of online learning. Also, peers and teachers should be considerate of the learners' needs since the distance and the current modalities being used in teaching and learning are new to many learners.

Limitations

The data collection was conducted one to two months after the opening of online classes. The data was also collected through the self-reporting and rating of the respondents. The information may be incomplete despite the best efforts since honesty and accuracy are affected using an online survey (Google Forms). These were the items noted by the researcher as the limitations of the study. Also, since most of the education students were female, no comparisons on the sex of the respondents were made as required by the MSLQ instrument.

Implications of the study

This study may provide a clear insight into whether the Filipino learners, especially in the higher education institutions, are motivated to learn. This could also pave further to the idea that the teacher's teaching strategies can provide opportunities for the learners of the online classes to use their kind of learning strategy, especially during the COVID-19 pandemic.

Conclusions

The motivation and learning strategies of the students participating in the research was between the middle 50% and the top 25%. Hence the learning strategy and the motivation to use the learning strategy can be assessed using the MSLQ instrument. To use the MSLQ instrument utilized by the researchers, this can be modified to measure the extent of motivation level of students within basic education curriculum, for example among the learners in Senior and Junior High Schools and comparability study among private and public schools learners and the availability of learning equipment and devices as well. This study and the MSLQ can also be modified to check whether parental and family support affects the learner's motivation and learning strategies during online classes.

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