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Factors Affecting Synchronous E-Learning amid Covid-19



Abstract: - The education sector, which was tagged as the most affected by the COVID-19 pandemic, has been following a course determined by the consequences of this global health hazard. Its continuity amid the pandemic made possible the implementation of synchronous e-learning (S-EL) even if universities across the globe had insufficient preparation. Given this scenario, it is then the purpose of this study to provide an objective evaluation of S-EL implementation. The factors affecting learning effectiveness were revealed and the factors that students would like their institutions to consider were likewise taken into account. It is recommended that these factors be considered prior to implementation of S-EL.

Keywords: asynchronous, pandemic, synchronous e-learning, pandemic

Introduction

As educational institutions continue to embrace new pedagogical approaches in the new normal of education, many have been introduced to the promising offers of modern technologies. The digitalization of teaching and learning has become an innovative solution to counter the negative effects of the present academic adversity (Liguori & Winkler, 2009). With these technologies in the market, the implementation of synchronous e-learning (S-EL) has become possible.

S-EL is defined as the application of electronic tools in education that allows learners and educators to interact with one another (McBrien *et al.*, 2009). In this learning scenario, educators can give direct feedback to their students, which cannot be done in asynchronous learning. Furthermore, compared to the traditional face-to-face instruction, instructional materials in an S-EL arrangement can be accessed by the learners whenever, wherever and however they want (Mohd Salman & Aziah, 2012).

In the case study of Kamal *et al.* (2020), they concluded that their respondents were optimistic about their transition to online learning. The students considered this new platform their motivation to be more active participants of the teaching-learning process. Along the same line of study, McBrien *et al.* (2020) found that most of their respondents treated their virtual classes as a positive experience, although some students were concerned about classroom management and sense of belongingness. This, however, is somewhat different from the finding of Shukri *et al.* (2020) which argued that S-EL contributes to students' self-regulation, a skill that 21st century learners should possess. The study of Alqahtani & Rajkhan (2020) somehow supports this finding, explaining that students are also accountable for finding ways on how they can motivate themselves while face-to-face interaction is not possible.

The world is now in the 21st century where modern technologies can help reform or revolutionize education. This is especially relevant to the Philippines, a third-world country, where the educational system still needs major improvements in order to endure the demands and changes in the academe. With this and the absence of a national policy on the implementation of S-EL, it can be argued that conducting an evidence-based study on the factors that affect S-EL implementation is of high significance. This study would contribute to the

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understanding on how location and proximity can affect attending face-to-face classes. It would also provide a basis on the importance of having educational technologies, computer literacy and proficiency in students' engagement. Moreover, it will give light on how students should take responsibility on assigned tasks as well as on how they can achieve leadership, organization and evaluation of activities—all of which are critical elements in maintaining and improving students' high academic performance. Merging, this study is a significant literature on how S-EL best works to render the ultimate purpose of education.

Objectives

Generally, this study aimed at identifying the impact of the Covid-19 pandemic on Isabela State University. Particularly, it sought to determine the status of S-EL implementation at Isabela State University by in terms of different factors such as students' accommodation, university facilities, students' learning facilities, university's academic programs, students' attitude toward S-EL, and students' and teachers' level of computer proficiency.

Methodology

This study used the descriptive research design. The researchers used a survey questionnaire intended for the 277 respondents exposed to synchronous e-learning. The questionnaire was three-folds: the first part collected the personal information of the respondents; the second part investigated their opinions about the factors affecting the effectiveness of S-EL; and the third part explored their evaluation on the level of influence of each factor indicated in the questionnaire. The respondents evaluated the factors using a five-point Likert scale ranging from strongly agree to strongly disagree.

Results and Discussions

Table 1. Students' accommodation

	Weighted Mean	Qualitative Description
1. Near school housing	2.45	Disagree
2. Spacious and quiet housing	3.52	Agree
3. Fully-equipped housing	4.58	Strongly Agree
4. There are more good conditions to learn at own home than at rented house.	3.57	Agree

Table 1 presents the data gathered on students' accommodation during the Covid-19 pandemic. It shows that the students gave the greatest consideration to a fully furnished housing with a mean of 4.58. This means that complete amenities generally pose a positive environmental stimulus and the absence of such could create a learning atmosphere that may not support them in their studies. Moreover, the students agreed that the bearable distance between home and school is not a factor of students' accommodation with a mean of 2.45. It can be argued from this that proximity does not immediately guarantee a living condition convenient for the students, but a fully-equipped housing does. This is supported by Muola (2010), who concluded that home environment has the greatest influence on students' learning, and by Bandhana & Sharma (2012), who found that students experiencing a non-supportive home condition face difficulties in their educational lives.

Table 2. University facilities

	Weighted Mean	Qualitative Description
1. Spacious and clean study room	3.31	Uncertain
2. Fully and newly-equipped infrastructure	3.33	Uncertain
3. E-library with abundant references	4.42	Agree
4. Classrooms for online learning with enough computers and supportive equipment	3.55	Agree
5. Good internet system with stable connection, high speed and easy access	4.53	Strongly Agree

Table 2 presents the data on the university facilities during the Covid-19 pandemic. The strongest factor affecting S-EL when it comes to this dimension is stable and high-speed Internet connectivity with a mean of 4.53. The students, however, were uncertain as to whether or not the physical aspect of study rooms would influence its implementation, as it only recorded a mean of 3.31. It can be inferred from this that it is quality access to Internet that will help the students to survive in this kind of learning arrangement. In fact, Perveen (2016) considered weak bandwidth Internet as a challenge because it is the only source that would enable students to attend their synchronous classes. A recent study by Jones (2019) as cited in Joaquin *et al.* (2020) showed that 74% of public schools in the Philippines do not have access to Internet.

Table 3. Students' learning facilities

	Weighted Mean	Qualitative Description
1. Owning a computer with high and modern configuration	3.58	Agree
2. Owning a computer with normal configuration but having all functions such as camera, microphone, etc.	4.57	Strongly Agree
3. Owning full supportive devices such as headsets, audio filters, camcorders, etc.	4.20	Agree
4. Owning a smart phone	4.23	Agree

Table 3 shows the students' response on the effect of learning facilities on S-EL. The data revealed that what best supports students in their synchronous classes is a computer with specifications and features applicable for this type of educational setup (4.57). Moreover, the first indicator in the table got the lowest mean, which is 3.58. However, the students still agreed that they need to have a personal computer with high and modern configuration. It can be gleaned from these data that S-EL immediately requires students to have a functioning computer in order for them to be virtually present during classes. This implies that even if students would be able to gain access to strong Internet connectivity, attending classes would still be a challenge for them. The lack of electronic gadget has been identified by many studies, like that of Ferri *et al.* (2020), as a pressing issue in S-EL. This is particularly true to economically challenged countries, as was indicated in the survey of the International Association of Universities (2020). Such problem led to a digital divide among learners (Joaquin *et al.*, 2020).

Table 4. University's academic programs

	Weighted Mean	Qualitative Description
1. Students did not learn or seldom had S-EL classes before Covid-19.	3.72	Agree
2. Only a few subjects are chosen for S-EL.	3.68	Agree
3. S-EL is a temporary solution during the Covid-19 epidemic.	3.53	Agree
4. At the end of the courses, exam will be taken either online or offline.	3.89	Agree

Table 4 reveals the data on the university's academic programs during the Covid-19 pandemic. With a mean of 3.89, the students agreed that examinations will be taken either online or offline, which suggests that they should have the options on how to take their examinations. This is especially true to those who do not have sufficient technological and financial support (UNESCO IESALC, 2020).

The issue on digital and financial inequalities become more complex because of the fact that the students had no to little experience using S-EL prior to the pandemic (3.72). It therefore implicates adjustments must be made in order to cope with the demands of the present academic adversity. Aside from these instructional nuances, the curriculum itself is also confronted. With a mean of 3.68, the students agreed that only selected subjects should be taught through S-EL, and this clearly poses threat to curriculum implementation and quality education.

Lastly, the students thought that S-EL is just a temporary solution to the challenges in the academe at present (3.53). All of these point to the readiness of the institution to implement S-EL, which is relatively new.

Table 5. Students' attitude towards S-EL survey

	Weighted Mean	Qualitative Description
1. S-EL learning is quite interesting, so you are curious to learn.	3.89	Agree
2. S-EL learning does not require you to go to class, you can study anywhere.	3.83	Agree
3. S-EL learning is easy to understand and its time is flexible.	3.79	Agree
4. S-EL learning will be tested online and easier to pass.	3.84	Agree

The data on the students' attitude towards S-EL reveal that learning through this modality somewhat arouses the students' interest to learn (3.89). In other words, the students can still draw motivation from this learning platform despite its newness. The Hungarian Rectors' Conference is in support of this as it reported the positive feedback of 42 Hungarian HEIs on the use of e-learning and online class participation (IAU, 2020). Moreover, the students said that learning is easy to understand, and its time is flexible (3.79). This highlights the strength of S-EL when it comes to giving learners the convenience they need, which is a common feature of S-EL (Mohd Salmna & Aziah, 2012). Overall, the students showed a positive attitude towards S-EL.

Table 6. Students' level of computer proficiency survey

	Weighted Mean	Qualitative Description
1. Need proficiency and agility	4.68	Strongly Agree
2. Need to understand the basic skills	2.53	Uncertain
3. No need. The teacher will instruct in the learning process.	2.42	Disagree

Table 6 gives emphasis on the students' level of computer proficiency. The students strongly agreed that proficiency and agility in using a computer are needed in S-EL (4.68). However, they were uncertain as to whether or not they need to learn the basic skills in operating one (2.53). This signifies that, along with the integration of technology in education, the students themselves saw the need to possess technical skills for higher and more complex computer operations. Given the mean of 2.42, the students disagreed that their teachers will instruct them how to use a computer in the learning process. The United Nations (2020) and Barada *et al.* (2020) made it is clear that there was a significant gap not only in the availability of digital equipment, but also in the computer skills of technology users in developed and developing countries.

Table 7. Result of lecturers' level of computer proficiency survey

	Weighted Mean	Qualitative Description
1. The teacher has good communication skills, fluent computer skills, and flexible use of S-EL teaching aids.	4.36	Agree
2. The teacher has good communication skills and uses some of S-EL teaching aids.	3.54	Agree
3. The teacher has good communication skills and teaches like in offline class.	3.53	Agree

Table 7 focuses on the lecturers' level of computer proficiency. The mean of 4.36 revealed that teachers possess computer and communication literacies, which have a profound effect on S-EL implementation. It implies that even if the shift to S-EL was abrupt, the teachers were able to meet the demands of this new learning platform.

This, to some extent, points to the readiness of the teachers to implement pedagogical changes during a global health crisis like the Covid-19 pandemic. Stukalo & Simakhova (2020) derived at the same result. Although 86% of their respondents lacked the experience to teach online prior to the pandemic, the researchers reported that 80% of the respondents were still prepared for it, which resulted in a satisfactory rating given by 70% their students.

Conclusion

The abrupt shift of the educational landscape from the traditional physical setup to virtual learning has forced educational institutions to embrace a relatively new learning modality. It can be concluded from the findings of the study that despite the positive attitude of students toward S-EL, they still believed that the attainment of learning outcomes is largely affected when using the modality. Alongside, various factors such as technological infrastructure, computer literacy, and learning space are all important considerations in the determination of a successful S-EL implementation. Although higher education institutions are gradually embracing S-EL, the findings show that unless these educational needs are met, Education 4.0 will remain a goal for everyone in the age of industrial revolution.

Recommendations

Based on the findings, it is recommended that educational institutions further investigate their readiness in implementing S-EL. Results of such may be used to formulate plans and policies that may ensure the delivery of quality instruction and gain the support of the educational community toward its possible institutionalization.

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