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Online Learning during COVID-19 Pandemic: Key Factors and Student Perceptions

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Abstract

The aftermath of COVID-19 has brought challenges in the delivery of education for the continuance of learning. This paper discusses the key factors affecting success, satisfaction and student perception to online learning in the context of COVID-19. Past research studies revealed that the main factors are the instruction, technology and online platforms, and student participation while the minor ones are social ability, motivation, physical facilities, continuance usage intention, and quarantine. On student perceptions, most research studies relied on using more quantitative than qualitative research design and looked into areas where perception affected satisfaction. While they may be valid, the inclusion of COVID 19 as part of the context may require additional thought into the rigor of the research design. In conclusion, this study sees the need for further research on the relationship between success and satisfaction, their levels as well as the action of policymakers, education developers, and service providers addressing the key factors and perceptions affecting these major areas to be considered in online learning.

Keywords : COVID-19 pandemic, Online learning, Online learning success key factors, Student perceptions

1. Introduction

The turn of the century has witnessed the substantial use of online platforms like the massive open online courses for educational purposes due to the advent of advanced technology. During the onset of COVID 19, on-site learning has shifted to online delivery of instructions as a preventive measure against the spread of the virus. This poses challenges in education to continuously meet learning needs despite the situation. While a number of studies claimed that online learning is useful, satisfied the majority of students, and temporarily addresses pedagogical needs, some studies argued that stakeholders such as students and teachers are not ready to implement online learning applications mainly due to instructional concerns, technical factors, online platforms and the additional expenses incurred as a result of the shift (Irfan, M. et. al, 2020). In the US, Morgan (2020) mentions in his study ISTE's standards for educators on best practices for remote learning during the pandemic. Against these standards, the key factors affecting the success of online learning and student perceptions are the foci of research. On one hand, investigating key factors of online learning shed some light on instruction, online platforms, accessibility, usage continuance, student engagement, and the like. Thus, in this paper, I endeavor to explore further the key factors affecting online learning that have been identified in previous studies since the recency of the crisis may have caused other factors to be inadvertently omitted or unforeseen due to the immediacy of the pandemic. Put another way, the presence or absence of these factors may reflect on the satisfaction of the end-users. On the other hand, student perceptions are worth studying because several studies found that there is a mismatch between human perceptions and reality (e.g. Hos & Kekec, 2014; Shim & Shur, 2018). It can, therefore, be argued that understanding how perceptions are examined and evaluated in past research studies may generate new ideas on how rigor can be improved in this kind of study.

Specifically, this paper would like to discuss the key factors affecting online learning success and student perceptions in the use of online platforms in the context of COVID-19.

2. Key factors affecting online learning success

Considering the past and present studies within the context of COVID-19, the key factors affecting success and satisfaction in the area of online learning have been reviewed in this paper to identify possible areas not much studied but may play key roles in online learning. Generally, grouping those factors results in 1.) instruction, 2.) technology and online platforms, and 3.) student participation. Other minor factors identified are social ability, motivation, university reputation, physical facilities, psychological factors, language skills, proficiency level, continuance usage intention, and quarantine.

Among the three major factors identified, instruction is found to be the most commonly studied. The specifics on this are included in the research studies conducted both during the pre-pandemic times as well as the onset of COVID-19. During the pre-pandemic times, these are the "instructor", "course management", "constructs of student-centered learning", "instructional design", "course content, organization and structure", "professors/instructors and instructional associates", and "faculty empathy" (Bolliger, 2004; Kauffman, 2015; Ke and Kwak, 2013; Lee, 2014; Sebastianelli, 2015). While the studies done during the pandemic times cover terms like "instructor support", "synchronous learning", "content and methodology", "virtual courses", "instructor's presence", "lecturer's competence", "class structure", "instruction and methodology", "e-learning factors", "curriculum", "learning environment" and "e-learning theoretical courses" (Quispe-Prieto, 2021; Roque-Hernandez, et. al., 2021; Almaiah et. al., 2020; Hamdan, et. al., 2021). We can see that instruction is one major factor studied both during the pre-pandemic and the present times but recently more emphasis has been given to the technical aspects and online platforms like "synchronous learning", "virtual courses", "e-learning courses and factors", which means online learning has been developing more on this area.

Also, meaningful results about instruction are sorted from among the studies. In the study of Bolliger (2004), the main predictor in determining satisfaction is the instructor. This is confirmed by Giray (2021), in which instructor support is independently and significantly related to student satisfaction. Also, Saragih, et. al's (2021) study revealed that a lecturer's competence is an important factor in giving them the confidence to learn. In addition, course content is found to be the strongest predictor of perceived learning satisfaction and quality in the study of Sebastianelli, R., et. al (2015). In the study of Ke, F., & Xie, K. (2009), an integrated course model promotes learning satisfaction. Moreover, the attractiveness of teaching method is found to be the most influential factor in the study of Zhang, et. al (2020). Lastly, Lee, (2014) found that student satisfaction level is closely associated with clear guidelines on assignments, rubrics, and constructive feedback. In addition, the student satisfaction level is related to the professor's (or course instructor's) knowledge of materials. Meanwhile, in Egypt, students preferred synchronous learning through different platforms during these pandemic times (Basuony, et. al, 2020).

The second factor mostly studied is technology and online platforms. Specifically, the concepts studied are "technology", "communication tools", "technical aspects", "technological factors", "computer self-efficacy", "perceived ease of use", "usefulness of online platforms", "access and use", "service quality", and "information quality". (Alzahrani, & Seth, 2021; Almaiah, et. al, 2020; Jiang, et. al., 2021; Lee, 2014; Qazi, et. al., 2020)

Generally, technology and interactivity follow the instruction as the most important factors in the study of Bolliger (2004). While on specific terms, interactive communication tools, platform availability, and adaptability greatly influence student satisfaction in some studies. (Chen, et. al., 2020; Roque-Hernández, et. al, 2021; Saragih, et. al. 2021). From these

studies, it could be perceived that during these pandemic times, more studies involved enhancing technology in terms of student satisfaction. This is in congruence with needed development in the area of instruction involving the technical aspect of online learning.

The last factor is student participation. The following are found to be included as specific factors: "student satisfaction", "interaction and collaboration", "autonomy", "engagement", and "student-student interaction" as found in the studies of Giray (2021), Hamdan, et. al. (2021), Puška, et. al. (2021), and Roque-Hernández, et. al., (2021). Specifically, in the study of Krishnapatria (2020), sufficient time allocation and student time management are important keys for student success. Also, in the study of Hamdan, et.al, (2021), self-regulated learning, internet self-efficacy, learner-content interaction, learner-learner interaction are significant predictors of students' satisfaction with online education. On the other hand, Puška, et. al., (2021) found out that student self-efficacy and goal setting indirectly affect satisfaction but metacognitive strategies directly do.

This study also looks specifically into the minor factors studied but may have an important role in the development of online learning to achieve success and satisfaction among its end users, the students. They are social ability, motivation, physical facilities, continuance usage intention, quarantine, efficiency, and the like. The study of Lin, et. al. (2008), examines how social and motivational attributes may influence students' online learning experiences. The results of applying structural equation modeling to students show the importance of students' perceived task value, self-efficacy, and the social ability for satisfaction in online learning. The study of Parahoo, et. al., (2016) focused on higher education institutions considering student satisfaction to be one of the major elements in determining the quality of their programs. The study identified four significant determinants of student satisfaction in decreasing importance: the marketing construct of university reputation; physical facilities; faculty empathy; and student–student interactions. Taghizadeh, et. al's (2021) study focused on continuance usage intention and the quarantine. They identified the factors affecting students' satisfaction with online learning, examined the relationship between satisfaction and continuance usage intention, and explored the direct and moderating role of self-quarantine during a pandemic situation. An online survey collected data from 1193 university students from Oman, Iran, Bangladesh, Romania, and Malaysia and analyzed such using the Structural Equation Modelling technique with SmartPLS V.3 software. Results showed that satisfaction significantly influences students' continuance usage intention with online learning. In some samples, self-quarantine has a direct effect on continuance usage intention and plays a moderating role in the Romania sample. Also, it can be inferred that there is a need for an efficient system in online learning through the result of the study of Bahasoan, et. al. (2020) stating that online learning is effective but inefficient.

3. Student perceptions in the use of online platforms in the context of COVID-19

The students, being the major end-users of online learning, should be given much consideration and importance as their perceptions would greatly reflect the present status of the new learning system. Therefore, research studies conducted about how they perceived online learning during these pandemic times should be reviewed and analyzed so that education providers could level up and meet the challenges the COVID-19 pandemic poses. In reviewing these studies, this paper focuses on the methodology used as being qualitative (interview, journal, ethnography, observation), quantitative (questionnaire, survey), or mixed. As aforementioned that there is a mismatch between human perceptions and reality, the review also looks into the rigor put into these studies to establish a more scientific approach on perception and performance. Also, recommendations from these studies will serve as a pointer to the new horizon of research when it comes to newer concepts and models concerning online learning.

Most of the studies conducted involved students in higher education utilizing either qualitative, quantitative, or mixed research designs. The parameters of sample size range from 40 to 800 participants answering various tools like online survey/questionnaire or through Google Forms with others utilizing statistical tools or programs. Lastly, student perception is generally classified into either positive or negative, and most student perceptions are found to be positive despite the pressing issues of the COVID-19 pandemic.

Firstly, students' positive perception towards e-learning and thus acceptance of this new learning system is revealed in the study of Khan, et. al., (2020). It has also demonstrated the significance of e-learning that has emerged as a new way of enhancing the learning process. Also, the result of the study of Muthuprasad, et. al., (2021), indicated that the majority of the respondents are ready to opt for online classes to manage the curriculum; they also preferred using the smartphone for online learning and recorded classes with quiz at the end of each class to improve the effectiveness of learning, and they further opined that flexibility and convenience of online classes make it an attractive option. Another positive perspective shown by students are shown in the study of Surani & Hamidah (2020), where 80% of students are willing to take part in online learning, 62% of students claim online learning provides benefits, and 32% of students have difficulty understanding the material. They also concluded that the perception of students in online learning is relatively good with several obstacles that require improvement.

On the other hand, Shawaqfeh, et. al., (2020) studied how students see preparedness for online learning using a cross-sectional survey with a 3-dimension survey questionnaire. 61.4% of the students agreed that the college of pharmacy was well-prepared and ready for online education during the emerging COVID-19. Also, 49.2% of the students showed a positive attitude toward the provided online learning while about 34% of the students identify some barriers toward the provided online learning. Finally, there were strong associations between the need for training on how to receive online courses and preparedness and barriers scores. The study of Maier, et. al., (2020), also found that majority of the students supported the initiative, stating that the online learning platforms provided by the university enable them to accomplish their tasks quicker although approximately 70% of the students did not have any prior extensive experience in web-based learning.

Meanwhile, Bączek, et. al., (2021) considered sorting out the advantages and disadvantages of online learning. As to the main advantages, the ability to stay at home, continuous access to online material, learning at your own pace, and comfortable surroundings were found to be of above-average percentages. On the other hand, respondents chose lack of interactions with patients and technical problems with IT equipment as the main disadvantages. There was no statistical difference between face-to-face and online learning in terms of opinions on the ability of the learning method to increase knowledge.

Other studies also centered only on how students perceived platforms to use for online learning. In the study of Sujarwo, et. al., (2020), results show students did not use online learning before the pandemic but amid the COVID-19 pandemic, the students were interested in using online learning in which the best application used by lecturers and students was WhatsApp. Chen, et. al.'s (2020) study revealed that platform availability has the greatest influence on user satisfaction. In addition, the study of Jiang, et. al. (2021) showed that students' satisfaction with online learning platforms is directly and indirectly impacted by their computer self-efficacy and the perceived ease of use and usefulness of the platforms.

Agarwal & Kaushik (2020) utilized feedback responses to specifically address concerns as perceived by the students. In the open comments, participants responded that these online sessions broke monotonous routine, were a good utilization of time and the material was easy to access. They felt motivated to read on those topics and it helped them

not to hinder learning despite stated some technical limitations that also were addressed subsequently through buying an advanced version of the software.

On negative perceptions, the result of the study of Rohman, et. al. (2020) showed that most of the students had negative perceptions about lack of proper planning in the implementation and there were complaints about the learning processes being dominated by assignments, and the unstable and high cost of internet connection. Also, the result of the study of Syauqi, et. al (2020), indicated that teachers managing online learning are not in line with student expectations wherein students feel that they were not provided with better experience and productivity in mastering competencies. Lastly, Nur Agung, et. al. (2020), identified in their study three major obstacles in conducting online learning in the English Language Education Study Program: the first is availability and sustainability of internet connection, the second is the accessibility of the teaching media, and the last is the compatibility of tools to access the media. The result of the current study suggests that accessibility is still the major factor influencing the success of online learning.

In summary, positive perception of students reflected on the following: their acceptance of online learning as seen with advantages and disadvantages, and ease of use through social media and learning platforms making their work quicker and understanding that it is a necessity to counter the present pandemic. On the other hand, negative perceptions of students reflected in the research studies are on the implementation of online learning, and internet connection that despite the high level of satisfaction in some areas, there are still concerns that need to be addressed for better improvement.

4. Conclusion and recommendations for future research

The main goal of this paper is to shine some light on the key factors contributing to students' success and satisfaction while engaged in online learning tasks in the context of the COVID-19 pandemic. While past studies were in unison that factors such as instruction, instructor support, and course methodology are indispensable for students' success, students' satisfaction depends mainly on accessibility, self-regulated learning, and self-efficacy. This has brought a whole new intensity of tension since there is inequality in the access of online learning as well as considering learner differences. Thus, future studies should investigate the relationship between students' success and satisfaction in terms of demographics and metacognitive abilities. Moreover, since pedagogical disparities (e.g. availability and quality of online technology) exist, it is worth examining the levels of success and satisfaction attained by different institutional settings. Finally, it is also interesting to analyze interventions and policies initiated by the various stakeholders of the learning process to assess their effectiveness and appropriateness. I hope this paper contributes to the understanding of success and satisfaction factors of learners in a context where the online mode of holding classes is probably the ultimate choice in this new normal everyone faces.

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