

The Effect of Online Learning on Communication between Instructors and Students during Covid-19 Pandemic

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Abstract: The Corona virus epidemic has become an international health pandemic and has had negative impacts on learning. Learning methods were consequently delivered via distance learning half way through the second semester of the academic 2019/2020. The current research aims to evaluate the Effect of Online Learning on Communication between Instructors and Students during Covid-19 Pandemic.

Methods: This research uses social science methodologies such as ethnography survey methods to the distance learning innovations so that stakeholders such as decision-makers can examine elements of its effectiveness, to offer more secure foundation for actions. The current study population consists of high school students during the COVID-19 pandemic. The study sample will consist of 1000 students from Universities in New York, United States. The effectiveness of online learning was assessed at different colleges and Universities in New York, United States through the perceptions of students. The data will be collected utilizing questionnaires.

Results and Findings: The results and findings indicate that online learners trust that they are capable of learning separately applying all features availed by the technologies. The researcher expects to prove that online learning interactivity motivate the students and they pursue their course with success and intensity. In all four scopes considered by the study, there researcher anticipates that there will be positive agreements. The previous ICT skills and online learning experiences will be important variables with this positive rating.

Conclusion: Online learning is playing an integral role in changing education in learning institutions during Covid-19 pandemic. It can improve educational reforms by establishing paradigm shifts from memory-oriented and educator-centered learning to student-centered learning where learners work cooperatively, improve their critical thinking and construct their knowledge. College and university students can adapt to the new learning despite some challenges. Blended learning that combine distance and classroom learn can henceforth be implemented. This current Corona virus epidermis changes the pedagogy strategies and technology application in education in the future.

Keywords: COVID-19 pandemic, international health pandemic, Online Learning on Communication, technology.

1. INTRODUCTION

The traditional lectures were essentially the major educational delivery module for students for generations. Knowledge delivery models have been transformed because of revolutionary transformations in information and communication technologies (ICT) to include online education (education access via the internet). E-learning is commonly known as online learning. In higher education in specific and education in general, online-learning is viewed as being a new trend that can be adopted by the high schools during the COVID-19 pandemic to curb the spread of the virus. The successes of these new models depend on the perceptions of learners and faculty member in the learning institutions.

Before eruption of COVID-19, the conventional teaching models for learning institutions have been classroom settings with teachers giving instructions and students listening and taking notes. One-on-one interactions between the teachers and students have been seen as fundamental education factor within the learning environments. By providing unrestricted breaks in the learning system in general, and in high schools in specific, the COVID-19 eruption challenged the conventional models and embraced distance learning through the application of ICT technologies. Perhaps because

learner become more engaged in the learning processes through interactivity, it is argued that learners may learn more through online education than via conventional lecture room models. A major feature of online learning is flexibility, because it foster student choice and student autonomy about where, how and when to learn. The new method of education is however facing weaknesses and problems.

The findings are that colleges and universities have integrated online and distance learning modes as the next reasonable steps in learning and education method during COVID-19. These education models have been considered as the educational pedagogies of the futures. Some professionals have gone ahead to forecast that the "residential-oriented models", that is learners taking class at predetermined locations and periods, will be a thing of the past in the near future. Nevertheless, one prevailing issue of Corona virus that should be handled is how the new learning delivery model that moves away from the fundamental one-on-one interactions between teachers and students influence student education and students' learning perception. Students should handle the following new matters in the distance learning setting:

- Ability to handle internet and computer technologies;
- Reliance on self-learning methods;
- Interacting with professors and learner through the Web;
- Submitting assignments and undertaking tests online.

These matters are particularly vital in the online education setting. Technology skills are an essential factor (Salmon, 2003). There are no spaces in online education for those students and lecturers who are not computer literate. Both the educators and the students are anticipated to be familiar with possessing the capability to cooperate with other people, master the learning management systems (LMS) applications, chatting via the Internet and using the Web (Macdonald, 2003). Online assessments and the online assignment submissions are crucial section of the online learning environment. Both in terms of the support of skills development and separating the product and process of collaboration, the collaborative learning presents new challenges and opportunities. Collaborations with colleges and educators offer students with opportunities to expand and enrich their comprehension by assessing the views of other people and test and defend their views (Tam, 2000). The online education environment is developed such that students are offered opportunities of deciding what to learn, given the relevant supports, and encouraged to interact with professors and peers (Higgins, 2000). The self-learning idea is based in the beliefs that learner education is more successful when it takes place with realistic experience context and if the students comprehend the learning reasons.

The e-learning method effectiveness has been well studied prior to its adoption at many higher education institutions. A research is carried out different universities in Bahrain, UAE, Qatar and the KSA to better comprehend how the learning technologies influence students' learning perceptions. The objective of this study is to best comprehend learner viewpoints of the e-learning approach efficiency. Besides, this article examines the e-learning dimensions that learners view as being beneficial over the conventional learning methods.

The research also sought the views of students about the e-learning negative and positives, its obstacles and requirements, and students' recommendations for the e-learning development. Students acknowledged the prospects provided by e-learning and the manner e-learning supported their learning, housing their learning circumstances and needs and facilitating communications. The learners appreciated that e-learning helped in meeting increased learning demands. On the contrary, they recognized certain confusion originating from the information diversity accessible via ICT and some dangers to social and physical health. They recommended that improvement could be made through specialized personnel, planning, and training. Majority of the barriers the learners recognized originated from lack of e-learning acceptance and infrastructural weaknesses. The respondents noted that they were aware of language barriers and financial constraints. Working closely with private sector and communities, universities might handle most of these identified challenges in infrastructure and products. This research concluded with some proposals and recommendations for future studies.

Research Objectives

The current research aims to achieve the following objectives:

- Evaluate the distance learning realities in colleges and universities in New York during the COVID-19 pandemic.
- Explore factors that determine the learner acceptance of distance learning courses.

- Reveal the distance learning advantages from the learners' perception.
- Reveal the factors that limit the distance learning effectiveness from the learners' perception.

Research Questions

This research addressed the following study questions:

- What are the distance learning realities in colleges and universities in New York during the COVID-19 pandemic?
- What aspects define the learner acceptance of online or distance learning courses?
- What are the distance learning advantages from the learners' perception?
- What are the factors limit the distance learning effectiveness from the learners' perception?

Limitations

This research is restricted to an examination of online learning learners (Curran et al, 2008). Moreover, the research is limited to university learners and, therefore, it should not be generalized to non-university students. The other main limitation of this research is the small sample size. The sample was confined to information system learners at colleges and universities. The study of a bigger sample was prohibited by time limits. The small sample size might affect majority of the statistically insignificant results. The results of this research as a result may not be generalized to the target populations (Garg & Varma, 2007). The findings may nevertheless be presumed to use across a variety of higher learning programs within similar settings and are exchangeable to comparable contexts.

The small sample sizes were because of the restricted numbers of online learning programs provided by different universities. The subjects' number is less significant and findings grounded on these smaller sizes of samples are viewed as useable because small sample size is not meant to measure general presentation within populations (Anderson & Algis, 2001). The non-parametric tests, particularly, do not require that the underlying distributions are normal and these assumptions are crucial for small sample size. Therefore, the nonparametric tests could be usable even for a smaller sample size. The t-tests were utilized for the normal data because they are universally known by mathematicians to function effectively with smaller sample size.

2. LITERATURE REVIEW

The review of the literatures in this research offers a clear description on the acceptance and use of distance learning particularly in high schools during COVID-19 pandemic. In addition, there are limited number of studies have been done to investigate the level of teacher's and learners' acceptance on the use of e-learning in higher learning institutions. In theoretical aspect, there are some missing components on most of TA frameworks in terms of knowledge factors. Blended Learning (BL) means a harmonic combination between conventional learning and online learning, where both are the most essential modalities in promoting learning activities. Recently students are enjoying flexibility environment such as accessing the learning materials, preparing for incoming class, giving feedback and ideas, sending assignment and real time communication with students and lecturers in the borderless environment. The study also revealed that the institute plays a major role and goes hand in hand in establishing BL as a learning tool of 21st century.

The R&D team of the universities have restructuring and redesigning technology and courses and programs of the college to align with the present labor market. The universities have developed a student-oriented education and learning. In colleges and universities, the courses and programs of the universities are generally different. These kinds of student-based courses and programs as well as education and learning are meaningful for promoting the services of the universities. The student-oriented courses and programs are important in improving Universities' brand names. Customized education programs and courses as the name suggest are services developed aligned to the labor market demands and needs of the learners. The aim of these courses and programs is majorly to attract the attention of the student and promote the university brand. The universities are now including promotional and customized educational service into their marketing strategies. The institutions spend large amounts on these programs and courses because they are cost-efficient. The University comprehends its students and the labor market demands.

Competency-based courses and programs at universities assist prepare professionals and experts to lead in their companies. The universities are availing competency-based education programs developed in helping prepare students with industry experiences to lead in their firms faster. Business leaders of today should act quickly to support the

organizational needs within a dynamic international business environment and the labor market. The competency-based programs aim to equip students with the skill to use in their workplaces once they join the labor market. The competency-based programs assess the expertise of real-world skills through hypothetical analyses aligned to the current labor market demands such as creating value-creation international strategies and organizational competitive advantages rather than measuring understanding through written assignments. The competency-based designs help enable graduates to accelerate their professional development and demonstrate core competency mastery.

The competency-based programs are perfect for mid-level professionals who can leverage their knowledge and experience in businesses to exhibit competencies to help lead their organizations during these extraordinary times. The programs are structured to help prepare experts for leadership roles at a faster pace and within their organizations. The graduates will have the ability to build digital portfolios that include coursework materials that exhibit the expertise of workplace skills they have performed throughout the programs in addition to learning skills. The programs are structured with working professionals in mind, allowing learners to pursue their degrees while having more flexibility to balance school and life. Students can work on completing courses concurrently through the guidance of university professionals. The universities provide learning opportunities with components of interactive learning associated with each competency.

The students will have substantive and regular interactions throughout the programs with university professionals, who are subject matter professionals with expertise experiences in the fields where they advising and teaching students. The universities provide performance-oriented assessments of learning outcomes and competencies to monitor the professional skills learners understand and can perform. The universities and colleges provide associates through individual and professional development courses as well as doctoral programs that help working students improve their careers and stay ahead of workplace trends. The universities in the Gulf region is innovating to assist working students to move effectively from education to career in dynamic labor markets. While balancing their busy lives, interactive learning, flexible schedules, engaging and relevant courses help students more efficiently pursue personal and career aspirations. Providing diverse programs from select regions throughout the Gulf region and online across the universe, universities serve diverse populations of students.

3. METHODOLOGY

Questionnaires were designed based on studies and works carried out by Kumar (2006), Ueno (2004), Liu et al (2004) and Lee (200) and indicators found in Fetaji & Fetaji (2007) to explore learner viewpoints of e-learning courses. The research was carries in two consecutive years with populations of information systems learners. A group of the students were taught using conventional teaching methods in which lectures offered by professors were the major activities. Questionnaires were developed to achieve the objective of this study, and the questionnaire included two parts and the first part included the primary data of the study sample members in terms of: country, gender College, academic level, level of achievement. The second part included the points of the questionnaire, which are (47) points, distributed in three axes, as follows:

- The first axis measures the advantages of online learning from the learners' viewpoints and consists of (22) points.
- The second axis: It measures the obstacles that limit the effectiveness of online learning from the learners' perceptions, and it consists of (13) points.
- The third axis: It measures proposals to improve e-learning from the viewpoint of students and consists of (12) points

and the response to the items of the tool is according to the Likert five-point scale (strongly agree = 5 degrees, agree = 4 degrees, to some extent = 3 degrees, opponents = 2 degrees, strongly opposed = 1 score).

The second part tested the familiarity of the learners with computer technologies. It explored the learners' viewpoints after taking online learning courses. The participants were requested to categorize the instances of ineffective and effective online-moderation practices in this part (Astin, 1993). The second section of the questionnaire sought to explore the learner satisfactions with the online teaching models. Learner satisfactions may be described as the learners' viewpoints regarding the university experiences and perceived education value. In a nutshell, this section of the questionnaire attempted to pinpoint learners' attitude towards online learning. Determining such attitude identified the important success aspects of e-learning. From the student questionnaire, demographic information was also collected. The data supported the decision of the research to conduct analysis on the basis of gender difference.

The questionnaire took about a half an hour to fill. By requesting respondents not to include their names, the confidentiality was maintained. There were 1338 students who answered the questionnaires. Students with strong technology knowledge hypothetically have positive expectancy dispositions toward online learning as there are no or few problems at the technical expertise level. This attitude showed how the cultural backgrounds influenced the learners' e-learning perceptions. The questionnaires were distributed during class period, and learners were needed to fill and return the questionnaires during the lecture period in ensuring a higher rate of response.

Research tools' reliability and validity

The validity of the tool was verified in its initial form by presenting it to a panel of arbitrators of university professors in different specialties, and the opinions of the referees were taken, and the necessary adjustments were made. After that, the study tool was applied to an exploratory sample from the study community and outside its sample, which included (50) male and female students, and then the internal consistency validity coefficients were extracted using the Pearson Correlation coefficient, between each of the points with the axis contained in it.

4. RESULTS AND ANALYSIS

Different analysis methods were used for the research objectives that include Likert scales that answered the study objectives. To obtain the response percentages and means, the descriptive statistics approaches were employed in comparing the figures with one another and comparing the values with the cut points or critical points established. The inferential method was the second approach that included soundness to the graphic statistical results. Using this approach, the chi-square tests and analyses of variances (ANOVA) were employed to compute the values of the study question to measure them against the ($\alpha \leq 0.05$) significance level.

In the U.S, social and cultural values are often grounded on gender segregations. This aspect leads to a lack of opportunities, communication confidence, and interactions to meet and exchange ideas with the opposite gender members. Technology might assist overcome these cultural challenges, limitations and barriers with all these restrictions by offering alternative means of collaborations, interactions and communication without dramatically changing the conventional and respected cultural and social norms. The easiness with which the cultural and social limitations executed by conservative communities on citizens, particularly female learners, may still be incorporated is one of the major promising e-learning advantages. In this research, statistical analyses show that genders play a great role in learners' attitudes towards online learning.

The findings indicate a strong relationship in attitudes of learners towards e-learning according to their genders. In all items (areas), the mean scores of female students outscored their male counterparts. In analyzing the online learning course components, the female learners were positive. These results indicated that gender play important roles in the attitudes towards online education. Nevertheless, both females and males indicated positive attitude towards online education with respect to developing self-confidence and overcoming shyness. In specific, female learners seemed more positively on online education as ways of overcoming shyness problems. The nervousness element was found to be important with a p-value of 0.004. These results show that the online learning setting had favorable effects on providing learners best education experiences. This provides reinforcement to the beliefs that online education might play constructive roles in overcoming social and cultural obstacles.

Hence, the aim in implementing e-learning is to build a richer learning experience for learners by integrating one-on-one meetings with online activities. Despite the desire to combine the best aspects of both worlds the formula at times ends up with a combination of the two's worst characteristics. Lack of training in using ICT and not much support from school management is being as one of the stated reasons beside authenticity and validity of the information. The important integrations of technologies as tools of facilitating learning and teaching have a challenge to many educators around the globe. Hence, the technology acceptance among teachers in this study is still unclear and needs further study. Therefore, there is a need to study the factors that influence teacher's adoption and use of e-learning as a teaching method.

The study pointed out a tendency in previous studies on BL which was to recognize and explain factors with primary focuses on technologies. There are less studies on views of tertiary lecturers of the e-learning implementations. Generally, various large-scale researches in education indicated that educators make use of technologies regularly and have good digital skills. Nevertheless, these applications are majorly restricted to information tools, presentation, word processing, and preparations of lessons.

The research only focused on either technology adoption or knowledge factors among learners separately. In educational context, teachers are taken as the main player in teaching environments that use ICT. Therefore, their knowledge factors should be considered important to be added in technology acceptance (TA) theories and in Implementing e-learning in higher education institutions. These knowledge variables have been conceptually identified but yet to be empirically tested. A conceptual paper should be carried out to prove that this aspects of new variables in TA serves as the novelty and worthiness of the study.

Data analyses revealed that characteristic of lecturers, quality of information, quality of the system and technical supports plays a vital role in molding the behavior in using e- learning and in Implementing Blended Learning at Tertiary Level and higher learning institutions. The results indicated that students were very accommodating towards BL and e-learning and brings a thoughtful reflection for teachers to adapt their teaching which creates more meaningful learning for learners.

The researcher found that many the students disagreed on e-learning implementation in universities where 75% of them preferred to have traditional classes. Even though e-learning has offered a lot of benefits, majority of the students still preferred the face- to-face learning activities instead of online instruction. Therefore, despite the strong emphasis given to BL in education, the researcher did little to evaluate how prepared these teachers are to carry out this method up until a study pointed out that students preferred the traditional classes than e-learning method. One of the underlying concerns with faculty meeting the expansion of e-learning is the integral part of technology acceptance and the pedagogical practices in online instruction. The researcher noted that some teachers might have lack of confidence on their technical competence and knowledge which could adversely affect their perceptions about online teaching or integrating technology into the classroom.

Most teachers have the confidence and are optimistic upon the capacity of ICT in improving the achievement of students learning. On the other hand, they seldom practice ICT in their teaching activities. It is a major issue to be solved on e-learning acceptance by the teachers in Implementing e-learning at Tertiary and higher education Level. The benefit of using technology in education will not be effective since there is low teachers' acceptance of ICT and incapable to use ICT in a correct and optimum manner.

There is no construct that specifically intended to address teacher's knowledge in technology, content and pedagogy as they are the expert in those areas. These components are important in educational sector especially for teachers, in order to construct students understanding and optimizing on what technology has to offer in Implementing e-learning at Tertiary and higher education Level. The researcher contend that different adoption models may be required to study the adoption of different technology services on the case of teacher's e-learning. Based on these empirical studies, the incorporation of other factors in e-learning for better understanding on technology acceptance among teachers in Implementing e-learning at Tertiary and Higher Education Level is crucial.

Some missing teacher's aspects such as knowledge, cognitive, and expertise were not stressed in the model. Teachers' cognitive aspect is essential when new technology is involved, since it influences teacher's decision-making and behaviour. Hence, cognitive aspect can be considered when looking into factors that influence teacher's technology acceptance. The researcher suggests that Technology Pedagogy and Content Knowledge (TPaCK) to be required as a significant field of teachers' expertise in 21st century learning environments. The study on the Factors and Challenges in implementing e-learning at Tertiary and Higher Education Level specifically in teacher's perspectives have not been widely explored in education field. Hence, there is a gap in the existing technology acceptance theories as e-learning mostly used in consumer behaviour research and lacks in educational context. Therefore, the researchers should fill the gap by including another three factors related to teacher's knowledge into the main blended learning model.

Referring to experience as a moderator, the findings reveal that factors of the intention of use, exert marginal effects in the prediction trees. Due to the absence of deepening analysis of this relationship, this study should have explored further on the role of experience as a moderator as the driving factors that affect the adoption of e-learning among teachers. As most of the studies resonates within students, it will be a great challenge to expand the scope of research attempting suggestions for educators to be employed in the model. It is important to study the demographics of the users or potential users. This may assist the policy makers to identify specifics needs of various segments before applying new execution. These three demographics variables; age, gender, and experience are identified as an important moderator that need to be included in this study.

5. CONCLUSION

As a conclusion, the main existing technology acceptance theories indicate that the successful of e-learning adoption cannot be described using a single theory of TA. Therefore, further modification of the model with additional constructs that fit within the context of teacher and technology need to be considered. It is expected to contribute to the effectiveness of e-learning implementation and the quality of education for all universities in the country or even in other countries that have a similar educational context.

E-learning is playing an integral role in changing higher learning institutions. It can improve educational reforms by establishing paradigm shifts from memory-oriented and educator-centered learning to student-centered learning where learners work cooperatively, improve their critical thinking and construct their knowledge.

The effectiveness of online learning is yet to be provide. Online education need not to be applied for sake of utilizing e-learning. Rather, only appropriate activities determined by best practice studies need to use the technologies. Cultural factors are usually viewed as fundamentally vital among many issues recently studied in ICT. The students contribute positively when they feel comfortable with online learning technologies and culture. As in other nations, social and cultural norms in the U.S place many restrictions on female learners. This leads to limited opportunities and a lack of confidence to express and debate their viewpoints. The investigator believe that technologies can help in overcoming the cultural limitations by offering alternative collaboration channels.

The key to an effectiveness e-learning experience are the educators. The findings of this research indicate that the students believed that the educators were major factors in their positive experiences. The social and intellectual competencies and significance of managerial and technical roles of e-learning educators were outlined as important aspects for the successes of discussions and interactions in the e-learning setting.

6. RECOMMENDATIONS TO IMPROVE ONLINE LEARNING

Online learning is an educational curriculum provided via digital platforms to share learning resources and knowledge among educators and students. Also, it provides learning courses provided out of the classrooms and accessed via digital devices using online technologies such as tablets, laptops, computers, and smartphones. Denoted as e-learning, this platform is essential in establishing the capacities of learners over wireless technologies and the internet. Providing e-learning plays a significant role in any course as it provides the learners with the opportunities to develop their capacities, especially in data science courses.

The following methods should be by learning institutions providing online learning to improve the e-learning in various courses:

- Provisions of regular interactions. There should be a concentration on continual interactions among the learners and educators who utilize the platforms of online learning. To build relationships, there needs to be continual successful communication among the tutors and students for improvements of great engagements and connections. Therefore, high involvement and relationships shall improve e-learning, resulting in the attainments of education goals and objectives.
- Provisions of extensive learning resources to students: According to King & Boyatt (2015), diverse ranges of education resources should be offered in the online learning education to expose learners to relevant and dynamic sources and resources. Such resources include online lecturer notes, published reviewed journals, magazines, online articles, and e-books. These shall act as the information sources to learners accessing e-learning overseas for the various course, providing the students with broad education materials to enhance their knowledge and expertise.
- Describing the objectives, goals, and outcomes of courses to the learners: All students enrolled in the e-learning courses such as data science and computer courses need to be explained for the objective, goals, and anticipated outcomes of various courses. This will enable them to develop clear understandings in the courses to be taken, therefore allows learners to mentally ready for the courses and assists them in setting their learning contracts.
- Integrating flexibility: The flexibility of the online learning services and processes such as class schedules, student and lecturer interaction sessions, and access to resources should be designed in a manner that can be modified in the future. The world driven by data is dynamic. Hence data science subjects need frequent updates to ensure their consistency and flexibility to these changes.

- Integrations of visualization tools. The applications of texts and words in e-learning courses hinder the simplifications of course presentations to the students (Harasim, 2017). The applications of visualization tools have to be applied to avoid this and foster the presentation of the course materials, including the learning goals, objectives, and outcomes to the learners. Also, it has improved the presentations of complicated concepts and subjects to learners by interpreting information and data via visual tools like pictures, videos, annotations, animations, charts, and graphs.
- Encouraging online group works among students. Cooperative and collaborative activities and learning result in the successes of the promotions of the enthusiastic exchanges of critical ideas and knowledge among the e-learners. Techniques like video conferencing and social media groups can be utilized in making the e-learning exciting and interactive, therefore enhance equitable sharing of skills, experiences, and ideas in education.
- Enhancement of online assessment processes. The examination of the students' progress should be conducted to assess the level, of course, understanding and measuring the knowledge students have as they learn to ensure quality learning. This can be done through continuous assessment tests, mid-term and end-term examinations (Simpson, 2018). Also, instructors' assessment must be focused on to ensure the learners are trained and taught in line with the set standards and can be done through online assessment, and paper assessment.

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