Arts, Mathematics and Sciences Students' Attitudes toward Online Learning during the Pandemic

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Abstract: The unusual coronavirus (COVID-19) outbreak in Malaysia has necessitated considerable modifications in how children are educated. As well as avoiding their friends and family, students had to become used to studying online. Remote learning has become the norm to prevent the spread of the highly contagious disease. The sudden outbreak has forced educators to transition to online modalities of instruction, notably at the university level. On the other hand, some pupils are open to online learning. But other people are apprehensive about switching from traditional to online study. Education professionals may be able to help make virtual education more engaging and efficient. The goal of this study was to see if Arts, Sciences and Mathematics students from the The Faculty of Education at Universiti Teknologi MARA (UiTM), Puncak Alam, Selangor, had different attitudes about online learning during the COVID-19 outbreak. The questionnaire was administered using Google Form to 201 students in semesters 1 to 8. The data were examined both descriptively and inferentially using SPSS. Inferential analytics include analysis of variance (ANOVA) and mean and standard deviation. Students' perceptions about effectiveness towards online learning platforms were found to be positive. There is a significant difference between Arts & Design , Mathematics and Sciences in terms of e-learning effectiveness during COVID-19. This shows that those groups had different views on the effectiveness of e-learning during COVID-19. Finally, when comparing the three programs' acceptance of e-learning during pandemic

COVID-19, the results demonstrate no major differences.
Keywords: Attitude, Online learning

INTRODUCTION

COVID-19, like many other aspects of everyday life, has had a major impact on students, teachers, and educational organizations all over the world. According to Toquero (2020), the pandemic prompted a worldwide movement by schools, colleges, and universities to close campuses for students to adhere to social distancing procedures. It was noted that transitioning from a traditional education environment to distance and interactive learning could not change overnight. This rapid transformation is currently plagued by various barriers and challenges (Crawford et al., 2020). Furthermore, this pandemic struck unexpectedly; it has now lasted a year, but the pandemic has yet to display signs of abating. As a result of this phenomenon, educational institutions all over the world have opted to create online learning materials for students from all academic fields using the technical resources that are already viable (Kaur, 2020).

This is not the first time that educational policy instruments had been suspended. SARS coronavirus (SARS-CoV) outbreaks in 2009 caused negative impacts on conventional education practices in several countries around the world. In fact, it is not only SARS-CoV - the H1N1 flu outbreaks too have had led to a negative impact on the educational curriculum (Cauchemez et al., 2014). As a result, COVID-19 prompted academic experts to reconsider traditional face-to-face instruction, and they started to see distance learning as a viable option for completing the classroom period for three to four months, minimizing the risk of infection for students before returning to traditional practices (Kaur, 2020). There are hundreds of organizations that offer online courses, but there are two problems that need to be addressed. To begin with, little is known about the impact and efficacy of online education from a macro perspective (McPherson & Bacow, 2015). Second, the efforts to efficiently teach digitally is likely to vary depending on a wide range of learning priorities that guide academic goals (Liguori & Winkler, 2020).

The acts we take are becoming more unified as the world becomes more united. COVID-19's pandemic did not stop at national boundaries. It has affected people of all ethnicities, educational levels, income levels, and genders. There are no exceptions when it comes to education. Students from privileged backgrounds may be able to seize opportunities if they are financially supported by their parents and are willing and able to learn. Those from low-income backgrounds, on the other hand, sometimes remain sick when their schools must close.

The focus of this study is on students' attitudes toward accepting online learning during a pandemic. COVID-19 is a virus that infects people. This problem is too fresh for the whole world to influence group fatality. This virus infection can cause a variety of illnesses, including common and severe colds, as well as respiratory disease. Human-to-human transmission has been verified. That is why having a Movement Control Order (MCO) is crucial. This order has had an impact on the education system listed, requiring all educators to find alternative solutions to ensure that the lessons will continue, as educators must adhere to the syllabus at all costs.

The crisis has brought to light the many flaws and disparities in our educational systems' internet access and computers needed for online learning. Furthermore, a supportive environment is needed to focus on learning, followed by expectations and knowledge. The prime minister's order on the MCO, which was issued in March 2020, caused conventional schooling to be interrupted by national school closures. Children and students have had to rely more on their own resources to continue to learn affectively via the Internet, television, or radio during this period, while the educational community has made considerable efforts to maintain continuity of learning. Teachers have had to adapt to modern pedagogical standards and implementation styles for which they may or may not have been trained. Learners in the most similar classes are at risk of falling behind because they lack access to digital learning resources or the capacity and commitment to learn on their own.

Furthermore, the COVID-19 pandemic has had a huge impact on higher education, as universities have closed their doors and countries have closed their borders in response to the MCO initiatives. Although higher

education institutions were quick to replace face-to-face lectures with online instruction, these closures influenced learning and exams. The crisis, on the other hand, is one of the issues that has arisen because of the popularity of university education, which includes networking and social opportunities as well as educational content. Universities will have to update their learning environments to maintain the required consistency, so that digitalization expands and complements student-teacher and other relationships.

Teachers are also crucial in ensuring that learning can flow in both directions. Students are represented by the teachers. The situation and circumstances that students face when participating in distance learning also differ. Not all students live in the same area with good access, adequate funding to keep data working, and a welcoming atmosphere. When it comes to universities, students come from all over the country, whether they live in rural or urban areas. As a result, incorporating e-learning at an early stage would have an emotional effect. This study focuses on Arts and Math's students, and examines how people's attitudes about Arts and Math's learning have changed because of the pandemic. The study's aim is to determine students' attitudes toward acceptance of online learning during the COVID-19 pandemic among Arts and Mathematics programmed in The Faculty of Education.

LITERATURE REVIEW

Online learning is another choice for educators and students to acquire information. This method of research employs a computer and an internet link for teaching purposes, which has resulted in a significant increase in the need of these two tools (Cole et al., 2017; Halverson & Smith, 2010; Kontos, 2015; Tynan, Ryan, & Lamont-Mils, 2015), as they make it easier to create online courses (Anderson & Dron, 2011). To be a viable medium and obtain high-quality education on a wide range of topics, online courses require a large audience of learners, as if there are no audience, online learning cannot be applied so the goal cannot be met. The same is true for face-to-face learning: if no students are interested in receiving information from educators, the information process cannot be considered effective. This method of learning necessitates two levels of collaboration for the process to run smoothly. Furthermore, online learning can include a variety of approaches to learners with diverse training and needs (Tudor, Stan, &

Paisi-Lazarescu, 2015). When studying online, the environment allows for indivisual and collaborative work, which is supported by a range of resources and learning methods. It highlights the key contribution of online resources to promoting social engagement in a learning environment by reducing students' reliance on teachers as a source of information where students rely on teachers (Beldarian, 2006; Simpson, 2006). In a nutshell, online learning focuses on how students look for information on their own rather than relying on teachers. This method may be student-centered learning, in which students solve problems on their own with the aid of the instructor.

2.1 Advantages and Disadvantages of Online Learning

Online learning is a network that allows students to be tested from anywhere and at any time using internet-connected gadgets. It appears to be easy, as students can assess anywhere with a good internet connection, and students can easily comprehend information at their fingertips. The effectiveness of online learning has been examined by several researchers. By exposing learners to views and content through technical resources rather than face-to-face interaction, social relationships are formed that can provide a foundation for growing their self-confidence and self-image. Furthermore, continuing to play in online learning can aid students in developing their imagination and allowing them to think beyond the box by using a variety of applications. Since one of the institution's goals is to create creative and inventive students, the students can meet the requirements, and help make the country's name a recognized one by using this approach. Indeed, online learning has made a significant contribution to interactive learning (Maborito 2004; Tudor et al., 2015).

Although distance learning through online learning has many advantages, some students prefer face-to-face learning for a variety of reasons. They can feel isolated and disconnected in an online class. For many students, the inability to respond quickly and successfully to questions or tasks is frustrating (Fletcher & Bullock, 2015). Students' trust may be harmed if they fail to use nonverbal contact with their instructor or peers, such as facial expressions or body language. When discussing technical problems, it is possible to become even more

frustrated, particularly if professional help is not available. Online courses need a high level of self-discipline (Drange & Roarson, 2015; Mabrito, 2004; Worley & Tesdell, 2009), and the digital text may be more difficult to read because it needs focus (Mabrito, 2004) It is possible that students have trouble staying focused for long periods of time. There are also sometimes differing views about the accuracy and validity of online resources required for online learning, compounded by the fact that face explanation is not always readily available, especially with the use of pre-recorded lessons.

2.1.1 Effectiveness Of ODL

Most organizations' key consideration in achieving their goals and objectives is effectiveness. Nonetheless, during the Covid 19 pandemic, higher learning institutions should not overlook the need of conducting online distance learning (ODL) efficiently. It is also well understood that ODL's institutional and administrative effectiveness and productivity are crucial in determining student development, retention, and outcomes. There are numerous dimensions to interactivity (Murphy et al., 2001). The importance of interaction in ODL has been highlighted by a few authors (Anderson, 2003; Boyle & Wambach, 2001; Dzakiria, 2004, 2008; Muirhead, 2001). In the instructional philosophy, interaction, according to Tait (2000), provides a mechanism for students to obtain feedback. Because positive learning development is determined by feedback, it can be argued that the more interaction made, the better it will be for the students, the learning process, and the teaching process. According to Dzakiria (2012), three types of interaction are necessary in the ODL process. (1) Interaction between learners- the learner-learner interaction can be defined as interaction between two or more students. Participation, response, and feedback are all important factors for the ODL process to be successful. (2) Interaction between the learner and the tutor/ lecturer. The learner-tutor interaction that takes place between the course's learners and tutors is designed to aid the learner's knowledge of the course's material and contents.(3) Interaction between the learner and the interface. Computer skills, ICT

experience, easy access to technology, and many other factors influence learner-interface interactions. Lack of acquaintance with technology, for example, has been identified as a negative obstacle to teaching (Moore & Kearsley, 2012).

2.1.2 Ease of ODL

According to Alseweed (2013), e-learning was created to make traditional teaching–learning procedures easier, and it entails the use of electronic devices such as computers, cellphones, and tablets to deliver online learning materials. A prominent issue of current research has been addressed on how technology might boost cognitive processes in knowledge production among instructors, because of improved acknowledgment of social interaction in professional learning (Zhang et al., 2017). In addition, several prior researches on the use of educational technology have identified the ability of the learners, their computer skill and experience, and their attitudes toward specific technologies as crucial determinants (John, 2015; Surej, 2015; Tran and Glowatz, 2014). Dumford and Miller (2018) also point out how the usage of online examinations may have a harmful effect on students' abilities to get formative feedback.

2.1.3 Interest and Adoption Of ODL

There are many alleged benefits and uses of online learning, which is one reason why there is so much talk about it. The following are a few of the most important: its efficiency in educating students, its usage as professional development, and its cost-efficiency in combating rising costs. Postsecondary education costs, credit equivalence at the postsecondary level, and the ability to provide a world-class education to anyone with a broadband connection are all issues that need to be addressed (Bartley & Golek, 2004; De la Varre, Keane, & Gratton-Lavoie & Stanley, 2009; Lorenzetti, 2013).

Online learning has been applied all around the world in the last

year. This type of learning is simple to use because learners and educators do not need to meet while the information is being provided. This strategy includes a variety of sources that learners can use instead of relying on an instructor. An educator's role is to assist pupils in solving problems rather than simply acting as a helper who the teacher must assign to solve their problems. Online education has grown at a breakneck pace during the last two decades (Allen & Seaman, 2013). According to the annual online learning survey, the number of college students in the United States who took at least one online class increased from 1.6 million in 2002 to 6.7 million in 2001. (Allen & Seaman, 2013). In comparison, this figure for the United States was not necessarily a global phenomenon (Barbour, M. et al., 2011).

Waleed Mugahed Al-Rahmi, Mohd Shahizan Othman, and Mahdi Alhaji Musa (2014) published The Improvement of Students' Academic Performance by Using Social Media Through Collaborative Learning in Malaysian Higher Education in Asian Social Science, Vol 10. In the context of the study, the subject of the impact of social media on academic performance and the prospect of using social media as an effective instructional tool to improve academic performance arose. According to the findings of this study, social media has a good and significant impact on collaborative learning in terms of peer, instructor, and collaborative learning interaction. Researchers used a quantitative methodology to conduct this study, and survey questionnaires were distributed to 120 undergraduate and postgraduate students in July 2013. This study discovered that academics who used social networking for collaborative learning applied five factors that improved the academic performance of students who were satisfied in higher education. According to the findings, social media happiness can increase kids' academic achievement by 80 percent. In a word, this research presents a new method for improving student performance that might be used to environmental and cultural issues.

Shahin (2008) studied the relationship between student characteristics, such as learning styles, and their perceptions

and satisfactions in higher education web-based courses. This study surveyed 279 students in five schools using Kolb's learning styles inventory and Walker's distance education learning environment instrument, as well as demographic questions. Moore's Transactional Distance Theory's three dimensions are linked to Kolb's two-dimensional perspectives of individual learning styles, according to the study. The study suggested that courses be designed to accommodate a variety of leaning styles on all dimensions of transactional distance.

The impact of ICTs on open and remote learning (ODL) in the Philippines is discussed by Bandalaria (2008). The researcher looks at how ICTs have influenced the development of ODL in the Philippines, as well as the distinct phases or generations of distance education in the Philippines, which are defined by the main technology used for instructional content delivery and student support services. He also discussed the numerous ICTs utilized in ODL and how they are used to different aspects of this method of delivery. He also looked at how quality of education is ensured in a technology-driven system of teaching and learning, which included using the "quality circle approach" in the development of courses and learning packages, as well as the provision of appropriate technologies to perform academic processes and achieve institutional goals.

Lastly, Mutlu (2005) conducted a descriptive analysis of the design and development of E-learning services in the Turkish open education system. The researcher concluded that the structure of the Open Education E-learning services is flexible to the point where students can study effectively while adhering to distance education regulations, follow books, television programs, and practice software, ask academic facilitators questions and receive responses, and take trial exams to evaluate their efforts. Nartgun (2007) conducted a diagnostic investigation on the perceptions of Open University students on the difficulty of distance education application. The open faculty students (n=45) who attended its classes were the subjects of this study. Data was gathered through interviews, which revealed that

students valued open learning the best because they worked in different offices. They also mentioned that most of the students had positive feelings towards the university. They did, however, report having difficulty studying on their own and believing they would have difficulty obtaining work in the future.

Switching from traditional to online learning would have an impact on students' attitudes. Previous research has been used as a guideline and to narrow down the concerns in this study. The researcher has explored the types of learning and online learning throughout this chapter. Some previous researchers may have discussed student preparation, perception, attitudes, and obstacles when dealing with online learning. Even though the students and study backgrounds differed throughout the studies undertaken, most of the previous research showed a favorable result for virtual classroom or online learning.

One of the research papers highlighted that most students would prefer online learning for a variety of reasons, including the ability to be more flexible, independent, and efficient with their time, as one of the advantages of online learning is the ability to perform it at any time and in any location. As a result, the purpose of this study is to investigate the attitudes of Arts, Math, and Science students in the Faculty of Education, Universiti Teknologi MARA (UiTM), in accepting online learning during the COVID-19 pandemic. When an unexpected event arises, the findings of this study can be valuable in building a better curriculum. Finally, this chapter has examined relevant studies regarding forms of learning, which can be considered an important factor in ensuring that education progresses smoothly and that students continue to absorb knowledge.

RESEARCH METHODOLOGY

The procedure or process by which a researcher begins to collect statistics and information to meet the research's objectives is known as research methodology. The goal of this study is to investigate the attitudes of Arts, Math, and Sciences students of The Faculty of Education, Universiti

Teknologi MARA (UiTM) Puncak Alam, Selangor, towards online learning during the COVID-19 pandemic. There are three sorts of questionnaires, according to Cohen et al. (2000): semi-structured questionnaires, unstructured questionnaires, and structured questionnaires. Respondents must complete the questionnaire based on the following response provided by the researcher. In general, an unstructured questionnaire is also known as an open question since it allows respondents to choose any appropriate response. The respondent's ability to state his own answer will not be affected by this form of quiz. The last form of questionnaire is a semi-structured questionnaire, which includes both structured and unstructured questions. For the purpose of this study, a structured questionnaire was employed to observe Arts, Math, and Sciences students' attitudes regarding online learning among students of the Faculty of Education at Universiti Teknologi MARA (UiTM) Puncak Alam, Selangor.

3.1 FINDINGS

Data analysis, according to Chua (2016), is the process of translating raw data into new functional information. In a study, it is critical to respond to the research question. The data from the Google form will be transferred into the Statistical Package for Social Science (SPSS) program throughout this study. The program will assist the researcher in keeping track of the information for each individual respondent. A total of 250 people took part in this study, with the Google form containing approximately 30 items. IBM SPSS software was used to examine the data.

Table 1. Data Analysis Procedure.

Section	Statistical Tool(s)
Demographic Data.	Descriptive Analysis
Sciences, Arts & Mathematics students' attitudes in terms of their interest and adoption of computer towards online distance learning.	Descriptive Analysis

Difference between Sciences, Arts and Mathematics students' attitudes in using online distance learning.	Analysis of Variance (ANOVA)
Acceptance of online distance learning between Sciences, Arts and Mathematics students.	Analysis of Variance (ANOVA)

DATA ANALYSIS

The analysis of this research indicated that there is a high level of attitudes amongst Arts, Math and Sciences students toward online learning during the COVID-19 pandemic. Comparing attitudes in terms of their interest and adoption of computer towards online distance learning, it showed that it was discovered that item two recorded the highest mean out of six items. Most of the students from these three programs agreed that it is difficult to favor online learning over traditional learning due to little face to face interaction among students and teachers. Next, an ANOVA test was conducted to compare students' attitudes in effectiveness using online distance learning with respects to programs. The results show that there are significant differences across the programs. Post hoc test was also conducted by the researcher to observe the significant differences. All pairs except for the Sciences students compared with that of Mathematics' are significantly different from each other. Furthermore, for the next research question, the researcher had also conducted an ANOVA test to compare on the acceptance of online distance learning between Sciences, Arts & Mathematics students. The result showed there was no significant difference from each program

Table 2. Summary of Finding.

Section	Findings
Demographic Data	Gender – There were 81 (40.3%) of male and 120 (59.7%) of female students.

	Year of Study – The researcher found that year three were the highest percentage of respondents answering the online survey; 60 (29.9%). This is followed by 52 (25.9%) of the respondents from year 2. The next data for year of study were respondents from year 4 with 48 (23.9%) of students that answered the online survey and this continued with respondents from year 1; 23 (11.4%). The last data for years other than the ones mentioned were 18 (9.0%) which is the lowest frequency of respondents in year of study. Programs – For the Mathematics program, there were 37.8% respondents with 76 students answering, Sciences program; 33.8%% respondents with 68 students answering and Arts and Design program; 28.4% respondents with 57 students answering, respectively. Interest toward Online Learning – There are 88 (43.8%) of the number of respondents who have moderate interest toward online learning followed by 75 (37.3%) of the number of respondents who have high interest toward online learning. Lastly 38 (18.9%) of respondents feel low interest toward online learning. Experience Having Online Learning Before Pandemic –107 (53.2%) of respondents said they had experienced online learning before the pandemic while the other 94 (46.8%) respondents said they had never experienced online learning before pandemic.
Sciences, Arts & Mathematics students' attitudes in terms of their interest and adoption of computer towards online distance learning.	Students strongly agreed that is difficult to favor online learning on a regular basis due to little face to face interaction among students and teachers. This is the highest mean score for this section.

Difference between Sciences, Arts and Mathematics students' attitudes in effectiveness using online distance learning.	The result show that there are significant differences between all pairs of different programs except for Sciences (ED247, ED248, ED260) and Mathematics (ED249).
Acceptance of online distance learning between Sciences, Arts and Mathematics students.	The result show that there are no significant differences in terms of their acceptance for online distance learning across the respondents' programs.

4.1 Differences between Sciences, Arts & Mathematics students' attitudes toward the effectiveness of using online distance learning

The results are different as compared to the Arts and Design programs; the students do not agree or partially agree on the effectiveness in using online learning. This can be supported by an article which mentions that a post-digital perspective on online learning observes that it has created an unbridgeable gulf between subject matter, technology capabilities and individual experience (Fawns, 2019). Instructional techniques and administration are critical in ensuring that students get the most out of the alternatives provided by online educational systems (Anderson et al. 2011). Remote emergency education, made possible by Covid-19, is frequently updated on the fly, with no assurance that infrastructure support will be available or sufficient. Although there was a lack of suitable infrastructure, a significant portion of the first guidance and assistance provided to non-expert online professors was centered on the technology tools that were accessible at each university and regarded adequate to ease the transition (Rapanta et al., 2020). The increasing use of mobile devices has increased the number of e-learning platforms available to students. The integration of virtual communities with online learning through a mobile platform will increase student participation, resulting in improved learning results

for everyone involved. Students, institutional leaders, and government officials can all benefit from this perspective on how to resolve the situation.

Table 3 represented the descriptive statistics for Sciences, Arts & Mathematics students' attitudes in using online distance learning. Research question 2 seeks to determine whether the three programs differ significantly toward online distance learning. Based on the descriptive analysis below, the highest mean for students' attitudes in using online distance learning is from the Art and Design program (mean= 2.8202, SD= .99553) followed by the Mathematics program (mean=2.4178, SD= .95319) while the lowest mean is from the Sciences program (mean= 2.1140, SD= 1.21148).

Table 3. Descriptive analysis for Sciences, Arts & Mathematics students' attitudes in effectiveness using online distance learning

			95% Confidence Interval for Mean					
					Lower Bound	Upper Bound		
Art and Design	57	2.8202	.99553	.13186	2.5560	3.0843	1.00	5.00
Mathematics	76	2.4178	.95319	.10934	2.2000	2.6356	1.00	5.00
Sciences	68	2.1140	1.21148	.14691	1.8207	2.4072	1.00	5.00
Total	201	2.4291	1.08963	.07686	2.2776	2.5807	1.00	5.00

Table 4. ANOVA for Sciences, Arts & Mathematics students' attitudes in effectiveness using online distance learning

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.480	2	7.740	6.904	.001
Within Groups	221.978	198	1.121		
Total	237.458	200			

For the second tabulation of data, Table 4 showed the ANOVA for Sciences, Arts & Mathematics students' attitudes in using online distance learning with respects to different programs. Based on the data below, there are statistically significant differences in terms of their attitudes for online distance learning between these three programs (F= 6.904, df= 2, sig. = .001 < .05). The Post hoc test results shown in Table 4.2.3 below indicate that all pairs except for Sciences compared with Mathematics are significantly different from each other (sig. = .031 < .05).

4.2 Acceptance of online distance learning between Sciences, Arts & Mathematics students.

An ANOVA was carried out to determine the acceptance of online distance learning between Sciences, Arts & Mathematics students with respects to different programs. Based on the data below, there were no statistically significant differences in terms of their acceptance for online distance learning between these three programs (F= .568, df= 2, sig. = .567 > .05). Online training is an important component of practical preparedness, while it is not the most important. Institutions should invest more than ever before in the professional development of their faculty, to keep their instructors up to speed on the most effective tactics and approaches for utilizing online technologies. The expansion of online learning in tertiary education will continue to accelerate, and schools will work together more systematically to pursue the most beneficial aspects of technology-based learning (Daniel, 2020). Because of the lack of direct or person-to-person contact in e-learning contexts, the educator's reviews and comments are extremely valuable resources. Instead of focusing on self-efficacy, researchers should move their attention to the use of technology, and students should feel more confident in their abilities to effectively perform, interact, study, and complete a full online course. Previous research show that students' perceptions of their own abilities in online learning, as well as their level of engagement with the content and their interactions with their instructors, are all critical factors in their overall happiness with their education and perceived learning. The findings further highlight

the importance of self-efficacy in the context of online learning.

CONCLUSION

To summarize, all the instruments employed in this study provided the answers to the research questions and achieved the objectives outlined in the previous section. As a result of this investigation, and from the data collected, it can be deduced that:

i. Arts, Mathematics and Sciences students in the Faculty of Education have low attitudes in online distance learning.
ii. Students have statistically significant differences between programs in terms of effectiveness in using online learning. Arts, Mathematics and Sciences students in the Faculty of Education have different perceptions or attitudes toward the effectiveness of online learning.
iii. Students in different programs have no statistically significant differences toward the acceptance of online learning. In other words, they have similar attitudes toward online learning.

The researchers found that item number 2 which is "It is difficult to favour online learning on regular basis due to little face to face interaction among students and teachers" has the highest mean score across the items while the lowest mean score from this section is item number 1, "It is difficult to understand online learning without getting acquainted with appropriate guidance". From the students' view, students were encouraged to be more self-sufficient in their ability to recognize orientation signals and operate without the use of micro-scaffolding. Because of the use of efficient communication and the efforts to increase student involvement, online education necessitates a more complete evaluation than traditional teaching. To become the master of his or her education process and to grow increasingly independent, the student must first become the master of his or her education process (Rodriguez & Cano, 2007). The relevance of interaction has been underlined by several different researchers throughout history. For web-based learning to be successful, thoughtful design, active participation of learners, and great communication skills are required. The belief in one's own ability to succeed is a critical aspect in student achievement and fulfillment. Comparing students with higher self-efficacy to students with lower self-efficacy, students with higher self-efficacy do

not view challenging tasks as complexities to be eliminated, but rather as a motivation and opportunity to grow their competency; this may increase learning performance and success, which in turn may lead to greater satisfaction with the results obtained (Alqurashi, 2019). In comparison to more recent studies, earlier studies purported to uncover a significant correlation between one's own self and technological advancement. The researchers also discovered that students who were enrolled in the face-to-face course performed significantly better than students who were enrolled in the online course, which was given in a more convenient and versatile manner due to the convenience and adaptability of the online course.

All educators should revise their educational skills to deal with the difficulties ahead. Institutions, instructors, and students should all try to seek out different learning environments to repair the damage created by Covid-19's disruptions to learning routes. The most essential thing to remember in this situation, however, is that no matter what web tools or applications have been used, while seeking to handle an educational challenge, we must be cautious not to cause a larger problem for ourselves or others. In addition, when seeking to ensure a student's academic success, we should not overlook the psychological and social or socio-emotional elements of learning, which require a more comprehensive view. The most essential thing to remember in this situation, however, is that when attempting to resolve an educational issue, we must be cautious not to exacerbate the situation by utilizing additional internet tools or services. Furthermore, in our efforts to assure the academic success of students, we must not overlook the psychological, social, and/or socio-emotional aspects of learning, which necessitate a more in-depth understanding. In future research, it may be necessary to make a comparison between completely online courses and blended courses to evaluate how the results differ. When comparing outcomes in future research, it is important to consider the demographic characteristics of the students. In other words, when attempting to ensure a student's academic growth, we should not disregard the psychological, social, and/or socio-emotional elements of learning, which require a more holistic approach. Studies with learners on e-learning activities during the Covid-19 outbreak should be carried out as a starting point for further research into online learning in the future. Because the outcomes of students' online learning experiences during the pandemic are not the same as those of related studies conducted prior to the global epidemic, it is necessary to

differentiate between the two types of research.

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