

# E-Learning During Covid-19: Secondary School Pupils' Readiness And Challenges In Miri, Sarawak

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**Abstract** – There is a major shift in the educational field when the world is facing a pandemic that impacts our daily lives. Problems emerge as a result of the move from normal face-to-face learning to the use of E-learning platforms. This transition results in pupils facing difficulties in their learning process due to the extensive use of technology. This study aims to identify secondary school pupils' readiness and challenges on E-learning during the Covid-19 pandemic in Miri, Sarawak. This study uses a quantitative approach, that employed survey research through a structured questionnaire as the instrument used to collect data. A total of 100 secondary school pupils in Miri, Sarawak was involved in answering the questionnaire. The data was evaluated using descriptive statistics, including frequency counts and percentages. The findings show that pupils are ready to continue implementing E-learning, as they have adequate ICT facilities, knowledge, and skills about using these ICT facilities. It is found that the key issues that affect online learning during COVID-19 have been discovered to be linked to pupils' being demotivated and lack of knowledge about various E-learning platforms used. The results of the research will aid educational institutions and policymakers in improving the E-learning experience from this existing situation.

**Keywords** – E-learning, Covid-19, Pupils' Readiness, E-learning Challenges, Secondary School Pupils.

## I. INTRODUCTION

Wuhan China recorded the first case of coronavirus (COVID-19) on December 1st 2019, Lai et al., (2020). Since then, COVID-19 has harmed and caused deaths of a lot of people in countries all over the world. To stand the spread of coronavirus pandemic most governments around the world have shut down educational institutions. According to Weedon and Cornwall (2020) social seclusion is required to prevent the disease from spreading widely throughout society. Normal ways and routines are no longer appropriate in this pandemic, which is still ongoing, thus teachers and pupils must adjust to new norms, Singh and Yunus, (2021). Various countries have attempt to mitigate Covid-19's impact on education particularly teaching and learning. Distance learning, particularly E-learning, is the most extensively explored method for teaching and learning during this challenging time, Li, (2020).

Despite the fact that school closures are unpredictable and do not occur on a continuous basis, E-learning is currently more prevalent than ever. As a result, the Malaysian government, in collaboration with the Ministry of Education (MOE), devised a number of initiatives to close all schools and implement an E-learning or online learning, signalling a rapid shift from the standard face-to-face classrooms to virtual learning, Kamarudin, (2020). As a result of the pandemic, several research has been conducted on E-learning or remote learning such as

(Klapkiv, (2020); Aboagye, et al, (2020); Sharin, 2021; and Lukas & Melor (2021), however, a greater number of studies have been conducted to examine teacher problems and perceptions of E-learning, with a concentration on higher education.

## II. PROBLEM STATEMENT

There has been little study done on pupils' perceptions of E-learning practices. Pupils are the ones who are primarily impacted by the pandemic. Pupils who have struggled with education in face-to-face sessions may find it more difficult to learn it virtually during this pandemic period. Their motivation to continue their studies would be stifled. Pupils' readiness for E-learning is one of the most essential issues to discuss. The challenges they faced also need to be comprehensively identified in order for this E-learning to effectively work in times of crisis like this. As a result, more research is needed to examine students' perspectives on incorporating technology into the teaching and learning process, including the problems pupils experience and also their readiness. Therefore, this study investigated the readiness faced by secondary school pupils while implementing e-learning during COVID-19. This study also sought to identify secondary school pupils' challenges in implementing e-learning. The research questions for this study are as follow:

1. How ready are the secondary school pupils in implementing E-learning?
2. What are the challenges faced by secondary school pupils during E-learning?

## III. LITERATURE REVIEW

### *E-learning*

According to Aparicio, Bação and Oliveira (2016), E-learning refers to the practice of computerised technologies to assist teachers and students in the learning process. According to Rodriguesa, Almeidaa, Figueiredob and Lopesa (2019), there has been much discussion over what constitutes a common definition of e-learning. Regardless, popularly e-learning definitions in the literature conveys e-learning is defined as using digitalization to give access to online learning/teaching materials, Arkorful and Abaidoo, (2015). This E-learning ability is one of the 21st century skills that every person needs to possess during this challenging times. The synchronous well designed technologies used in web assisted e-learning are intended to improve teaching and learning, Hasram, et al., (2020).

The closure of educational institution due to COVID-19 has urged schools to device ways for the evolution of

teaching and learning for students to be done effectively in a safe environment. There are several learning platforms to be utilised such as Cikgootube, social media applications, Digital Educational Learning Initiative Malaysia (DELIMa) during this *Pengajaran dan Pembelajaran di Rumah (PdPR)* or home-based. Applications such as Google Meet or Microsoft Teams live streaming; or E-Games (gamification), videos, audio clips, e-Books and online recordings or assignments can also be used, according to MOE, (2021). E-learning could be offered using a Learning Management System (LMS), which can be provided by institutions or made available for free on the internet according to Jason Rhode (2017).

### **E-learning Readiness**

According to Kaur and Abas Yilmaz (2017), e-learning readiness is defined as a person's ability to employ e-learning materials and multimedia technology to improve learning quality. E-learning preparation is made up of several components, according to several types of study, including computer or internet consciousness, internet communication consciousness, self-directed training, student autonomy, and desire for e-learning, Hung et al., (2015). According to Yilmaz, (2017), computer or Internet self-efficacy is described as a belief in one's capacity to run basic computer applications.

Engin (2017) stated that one of the primary inputs to the learning teaching system is readiness which plays a huge role in the educational process before beginning e-learning or online learning. It is critical to assess the readiness of students for student success, So and Swatman (2006). Online learning progress is from online readiness, Kruger-Ross and Waters, (2013), providing both has strong relationship together. Kaur and Abas, (2004). Borotis and Poulymenakou, (2004) defined student preparedness is defined as being intellectually and physically equipped for online learning. Student readiness for online learning was first described by Warner, Christie and Choy (1988) dividing it into three aspects: (i) student preferences for a form of delivery, (ii) student confidence in electronic communication for their learning and (iii) students' ability to engage in self-directed learning. In a nutshell online learning readiness research looks at student and educator readiness as well as the conditions that lead to successful digital learning, Blayone, (2018). Students must be online ready in order to profit from online learning settings, Engin (2017).

It is seen that student academic success is negatively impacted by the lack of parents support according to Akrofi (2020). Good and effective parenting skills are even more crucial as children are confined to their home. Furthermore, because most online study platforms need the usage of electronic devices such as televisions computer cell phones an Internet connectivity child from low income families may be unable to involve in e-learning. Some students will be unable to attend school because of the pandemic as they are unable to afford it. However, The Ministry of Education Malaysia (MOE) gives teachers options of home based learning which includes offline learning and off site

learning. This matter should be researched further too.

### **E-learning Challenges**

Students' attitudes toward E-learning and self-directed learning with technology, unfortunately are not at the desired level. This could be related to students' prior experiences which may have had limited or unpleasant E-learning experiences, Almarabeh et al, (2016). As a result of the move from normal face to face learning to a wholly virtual learning environment students experience a decrease in well-being a lack of motivation and trouble concentrating on their studies according to Azlan et al. (2020). Other online content can divert students' attention away from the lesson, making the instruction less engaging. Pazilah, Hashim & Yunus, (2019). According to Sharin, (2021) the challenges of online learning can be broken into the following: the technology hurdles pupils face, search as a lack of digital resources no internet access or no Wi-Fi connection will produce a slew of issues since many students will miss out on learning possibilities, Dhawan, (2020).

Shahzad et al. (2020) mentioned that the E-learning environment had impacted teachers' instructional methods and caused failure in teaching and learning. Other E-learning issues include teachers' lack of readiness to engage students in full participation and completion of assignments according to Aliyyah et al. (2020). Lukas and Yunus, (2021) too mentioned that instructors who are not competent about online delivery could make course design and planning useless and problematic. The rush to implement e-learning during COVID-19 prompted instructors and students to accept the change. Furthermore, the learners showed less effort and responses during teaching and learning sessions in switching off their video and audio throughout the whole online lesson, thus effective engagement and interaction between students and teachers could not be highly produced, Mohammed et al., (2020).

## **IV. METHOD**

### **Research Design**

True a quantitative research approach this study employs a survey research design in which an online survey was conducted. The online survey was carried out from April to May 2021 in four secondary schools in Miri, Sarawak. This survey through a structured questionnaire gathers information on pupils' readiness and challenges toward E-Learning, especially during this pandemic. In addition, the survey will look into the availability of IT equipment that allows them to engage in online classes and gather people's opinion on the challenges they might faced.

### **Research Participants**

A stratified random sampling is used in this study. 4 secondary schools in Miri are involved with a total of 100 participants. The questionnaire was distributed via WhatsApp where it was completed by 25 pupils from each

school to obtain unbiased data from several schools and different levels of study. All participants are with different levels of study (Form 1- Form 5). Chart 1 shows a detailed demographic profile of the participants.

**Research Instrument**

A structured questionnaire based on a five-point Likert-type scale containing 10 items was framed using Google forms and digitally sent via WhatsApp to pupils. The questionnaire was adapted from Olalekan, Hayatudeen and Kemi, (2021) on their study about the *Perception and Readiness of Students' Towards Online Learning in Nigeria During Covid-19 Pandemic*. The survey questionnaire has three sections. The first section apprised the respondents' demographic background and instructions for filling the survey. The second section gathered information on the students' readiness for e-learning, which included facility readiness as well as knowledge and abilities to use the facilities. The third section gathered data on the challenges pupils experienced when learning through online. It is divided into two categories: pupils' attitudes and their knowledge about internet platforms. The answers in this questionnaires employs the five Likert scale ranging from strongly disagree to strongly agree. A pilot study was performed on 10 pupils to test the validity and reliability of the instruments. There are no changes needed after the pilot study is done. Hence, the questionnaire is distributed and answered by 100 participants.

**Research Procedures and Analysis**

The questionnaire was then forwarded to 100 pupils through WhatsApp because it is the most convenient medium for researchers as most of the pupils are easier to access or contact via WhatsApp especially during home-based learning in times of social distancing during Covid-19. Results are analysed using descriptive analysis with frequency count and percentage to understand the readiness and challenges faced by the respondents. The data is presented in charts and tables. Data will be analysed by participants' answers based on the likert scale chosen from strongly disagree and disagree, which analysed strongly disagree and disagree as the same negative answer group, undecided which indicates there is no affirmative answer given, agree and strongly agree is grouped in the same positive answer.

**V. FINDINGS**

Applying the descriptive analysis method to analyze the survey responses, the results are presented in charts and tables. The demographic background of respondents is illustrated in pie chart 1 and pie chart 2. The data summarized in Table 1 and Table 2 are to identify the factors influencing e-learning readiness during Covid-19. For eliciting the challenges faced by pupils during implementing online classes, the data is shown in table 3 and table 4.

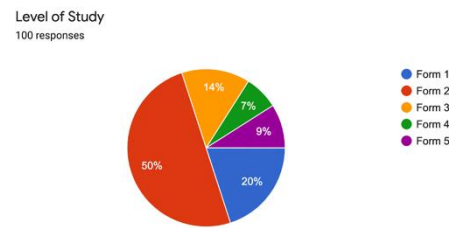


Figure 1: Level of Study

The data for this study was gathered among secondary school pupils in forms 1 to form 5. Form 2 had the largest percentage of respondents, at 50%, or 50 students. Followed by form 1, a total of 20 pupils. There are 14 form 3 respondents and 9 form 5 respondents out of 100 total. Lastly, 7 pupils from Form 4 responded to the survey. The majority of respondents are female which stands at 54% and there are 46% male respondents in this research. The data tabulated below is to answer the following research question: How ready are the secondary school pupils in implementing E-learning?

TABLE 1: READINESS TOWARDS E-LEARNING: FACILITY

Statement/ Percentage (%)	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
<b>Facility</b>					
I have a functional electronic gadget (computer/smartphone) that is needed to enrol in an online learning class.	14	17	13	27	29
To connect to an online learning classroom, I have strong internet speed or Wifi connectivity.	19	27	7	19	28
I do not need to share devices with my siblings or anyone.	20	23	13	17	27

As table 1 illustrates the equipment readiness Chapnick, (2000), 56% of respondents have functional electronic gadgets, while 13% are undecided, implying that occasionally or sometimes they do. However, 31% of pupils disagree that they have a working device for online classes. In regards to access to good internet connection through broadband or WIFI, 25 pupils are undecided in terms of having WIFI at home, 46% of the students disagree that they have wifi connection, probably because most of the time they do not have WIFI connection. 47% agree while 7% are undecided. 44 pupils agree that they do not need to share devices, meaning that they do have their own device themselves. 43 pupils disagree to this while 13 of the pupils were undecided, implying that occasionally they do not need to share devices or do.

TABLE 2: READINESS TOWARD E-LEARNING: KNOWLEDGE AND SKILLS

Statement/ Percentage (%)	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Knowledge and Skills					
I am well-versed in general online browsing/surfing/ICT tool use.	14	26	34	10	16
I have adequate support from teachers, family members or friends to teach me to use the ICT	14	16	16	34	20

40 pupils disagree that they are well-versed in general online browsing/surfing/ICT tool use. 26 pupils agree to this while 34 pupils are undecided, implying that sometimes they know how to use the net or ICT tools, sometimes they do not. The findings suggest that the issue of technological skill readiness is still present. This implies that learners must be taught digital literacy in order for them to be comfortable with online learning. This item is related to the following item, in which 54 students believe that teachers, family members, or friends have provided appropriate help in teaching them how to use ICT. While 30 pupils disagreed and 16 pupils were undecided. The following tabulated data and discussion are to answer the second research question: What are the challenges faced by secondary school pupils during E-learning?

TABLE 3: CHALLENGES FACED DURING E-LEARNING: ATTITUDE

Statement/ Percentage (%)	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
ATTITUDE					
I'm not certain that online learning can be used to master the syllabus.	14	19	33	21	13
I don't think online learning can improve my grade	19	16	28	19	18
It's difficult to stay motivated to learn while I'm alone at home given the absence of classmates.	11	17	30	18	24

The respondent's response on item 1 "I don't think online learning can improve my grade" seemed to have equal response. The number of respondents that disagree is (33%), undecided (33%), and agree (34%). There is also not much significant difference seen in item 2 which is "I don't think online learning can improve my grade" where the number of respondents who answered disagree is 35%, agree (37%) and undecided (28%). It is seen that their response is almost equal for agreeing and disagreeing as well as being undecided. This also could be due to the fact that online learning is newly implemented. However, a large number which is 42% of the pupils, agree that they feel unmotivated to learn while isolated at home without the physical presence of their classmates. While 38% of the pupils disagree with the statement and 30% are undecided.

TABLE 4: CHALLENGES FACED DURING E-LEARNING: KNOWLEDGE OF ONLINE PLATFORMS

Statement/ Percentage (%)	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
KNOWLEDGE OF ONLINE PLATFORMS					
I did not receive enough exposure to use the online platforms.	15	17	26	24	18
I do not know how to use online learning platforms.	17	20	29	10	10

There are 42 pupils who agree that they did not receive enough exposure on how to use the online platforms. However, there are 32 pupils who disagree as they do not receive enough exposure to use the online platform. 26% of pupils are undecided on this which means not all the time they were exposed or taught on how to utilize online platforms during their online learning. This could be related to the percentages of respondents that chose they do not have adequate support from teachers and their surroundings in the previous section. 37 of the pupils stated that they are conversant with learning platforms. However, 20 pupils disagree as they do not know how to use online learning platforms. 29% of respondents were undecided.

## VI. DISCUSSION

### *Readiness in Facility*

Given the diverse backgrounds of pupils and the fact that socioeconomics is known to be an issue in Malaysia, providing enough IT equipment in a short amount of time is difficult. According to a study performed by the Education Ministry of Malaysia, 36.9% of pupils in Malaysia do not own any electronic gadgets, said Senior Minister (Education) Dr Mohd Radzi Md Jidin reported by Chan,

Karim, and Yusof (2020, April 15). Internet bandwidth is required more in order to operate online learning; this explains how pupils that have poor internet connection are able to answer this online questionnaire. Despite the fact that this study was conducted in a city, it was discovered that the existence of wifi or broadband connection in pupils' households is evenly spread. As a result, connecting to online learning will continue to be a problem. Limited accessibility to the internet makes the online learning process harder for the students, (Lee, 2020).

It can be stated that a big percentage of students have access to a gadget that allows them to participate in online classes but the number of students with Wi-Fi or broadband connection is about equal with half of the students having Internet access and the other half not. Online learning can be seen to be compromised at this level. However, the Ministry of Education on the other hand is claimed to be investigating other options such as stepping up efforts to establish Educational TV, (TV *Pendidikan*) programme to improve teaching and learning process at home, Yusof Chan and Karim, (2020, April 15).

### **Readiness in Knowledge and Skills**

A greater number sides on having trouble using the internet or ICT tools. There are a lot of online platforms introduced since the beginning of the pandemic such as DELIMa, Cikgootube, Google Meet or Microsoft Teams MOE, (2021). A study done by Lukas and Yunus, (2021), indicated that WhatsApp applications for teachers online teaching and learning are particularly practical and convenient followed by Google Classroom Zoom, and Quizzies. - basic teaching on using technologies. It would be beneficial if the school could choose a primary platform for students to use in order to help ease their readiness to use online platforms instead of one teacher, one platform. Based on these numerous viewpoints, it can be concluded that online learning readiness may be increased by continual assistance from the surroundings as well as improvements in facilities and internet connection. Initiative from the Malaysian government which is to provide internet allowance to the low income family and students allowing them to utilize internet for online learning, ("Internet Allowance", 2020). In terms of long term repercussions this is yet to be determined.

### **Challenges in Attitude**

Due to the application of online learning is still in the embryonic phase and the impact in terms of mastering the syllabus is still vague. In today's full force of distant learning, learners and teachers only meet via virtual environments using the internet and its technologies. Gonzalez et al. (2020). It is seen that participants' response is almost equal for agreeing and disagreeing as well as being undecided. This also could be due to the fact that online learning is newly implemented. Azlan et al., (2020) also stated that personal issues also contribute to students experiencing a decline in wellbeing, lack of motivation, trouble concentrating on their studies with regards to

difficulties faced because of the transition from face-to-face to a fully virtual learning classroom.

Therefore, from a positive perspective, these findings suggest there is a probability of pupils having a positive outlook on E-learning. Teachers need to play an important role in giving an effective teaching and learning session during online learning so that pupils will give their full trust in believing that they can indeed excel although their studies are now shifted to this style. According to Hardan (2013), as an ESL instructor, one should always be preoccupied with adequate knowledge and readiness to improvise the subject matter based on e-learning according to each student's skill and capability. Although the fact that being home is demotivating not only for students but also for adults, motivation is essential and has long been recognised as one of the most important variables influencing second language acquisition achievement. Pazilah, Hashim and Yunus (2019).

### **Challenges in Knowledge of Online Platforms**

Twenge (2017) agrees by noting that, "In this modern era, not all digital natives possess digital competence that is not confined to schooling but encompasses all areas of life". Students and teachers with a poor understanding of digital technology are prone to falling behind in online learning. It may be inferred that the majority of participants did not receive sufficient training on how to use online learning platforms, however, they can utilize on line platform by themselves. According to Dessof (2010), today's students are unlike any students the educational system has ever seen. As they've been engaged in technology since infancy, they are referred to as "digital natives" or "net generation". Based on Kopp et al. (2019) Five Common Assumptions on Hindering Online Learning, these findings shows that participants are more inclined to have a competency limitation in ICT skills or knowledge.

## **VII. CONCLUSION**

COVID-19 has impacted every parts of human life, including economics, social issues, and most importantly education. This unanticipated pandemic has transformed Malaysia's educational landscape, affecting both teachers and pupils. Pupils are likely to experience the weight of the changes in instruction delivery via online learning since they are not physically or intellectually equipped.

In terms of readiness in the facility, pupils are seen to have sufficient gadgets of their own as well as a decent internet connection. Pupils are perceived to have a limitation in terms of readiness in knowledge and skills to operate electronic resources, since their understanding of how to use electronic resources is still lacking. Based on these numerous views, it can be stated that continuous help from the surroundings, as well as improvements in facilities and internet connection, can improve online learning readiness. In terms of the challenges faced, pupils are obviously demotivated to be cooped up during this pandemic. Pupils also did not receive sufficient training on

how to use online learning platforms as the implementation is abrupt, however, the advantage is that these technology-savvy generations are capable of utilizing online platforms on their own.

Nevertheless, the effectiveness of online learning varies amongst pupils' readiness and challenges in terms of inadequate facilities or gadgets that hinder them from participating in online learning lessons. Educational disparity can be minimized if the cost of digital equipment and data plans is reduced. In order to close the digital gap the quality of Internet connection across the country should be enhanced. Additionally, the findings of this study can help secondary school teachers and the Ministry of Education develop timely and effective decisions on how to employ remote learning during a pandemic. However, the limitation of this research is that this study is focused on the urban area of Miri, Sarawak only. Future research is necessary to further understand these challenges faced by pupils and teachers in rural areas. Further research also can be done to identify which online platform is more pupils-friendly and easier to use to improve learning quality.

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