

Exploring Students Satisfaction towards Online Learning in the Midst of COVID-19

Nor Shela Saleh^{1*}, Mohd Shafie Rosli², Thuaibah@Suaibah Abu Bakar², Azlah Md. Ali²,
Khairunesa Isa¹

¹Universiti Tun Hussein Onn Malaysia,

²Universiti Teknologi Malaysia,

^{1*}norshela@uthm.edu.my

Received: 21 November 2020

Received in revised form: 11 December 2020

Accepted: 15 December 2020

Published: 15 December 2020

ABSTRACT

The spread of the COVID-19 pandemic that has begun since the end of 2019 has begun a lot of sectors to be disrupted, including educational institutions in Malaysia. The spread of this pandemic has completely transformed the institutional learning style into an online learning system. However, there are still challenges and weaknesses in realizing online learning, especially in terms of learning satisfaction among students of higher learning institutions. This study has identified some obstacles and challenges that students throughout online learning. Therefore, three main objectives of the study have been identified namely to study (i) the of student's satisfaction during interact with lecturers, (ii) the level of student's satisfaction during interact with classmates and (iii) the level of student's smoothness via online learning. Questionnaires were distributed via the google form application. The results of the study found that 185 students gave response. The respondents of the study consisted of first semester students in a Malaysia public higher learning institution. The results show that the number of male respondents is more than female. In terms of ethnic classification, Malays are dominant. Respondents consisted of five areas of specialization in education, such engineering, science, technology, management and education. Students living in urban areas also be more than rural students. The overall results of the study prove that the level of satisfaction of student interaction with lecturers was satisfied. However, the level of interaction with classmates was not satisfied. From the aspect of fluency of learning, majority of students were satisfied with Online Learning Even so, the number of dissatisfied students is still in the crowd. Accordingly, this study can be used from time to time to see the overall level of online learning satisfaction. This is to ensure that no student will drop out during Online learning conducted midst of COVID-19 pandemic.

Keywords

Online learning, student satisfaction, pandemic, COVID-19, Online learning challenges

Introduction

COVID-19 was detected in mid-December 2019 at Wuhan City, Hubei China. This virus was identified as a pandemic by the World Health Organization (WHO) on March 11, 2020 (Warwick & Roshen, 2020). According to the epidemiological studies that clear showing that COVID-19 pandemic was attacks sensitive or chronic person who have other diseases such as high blood pressure and diabetes. In other social and economy context, pandemic is a dangerous sickness and impact the world through extremist global attack. The COVID-19 pandemic phenomenon impact the economic, social, religion and education. The whole have declare that educational trend was changed. However, according to Adnan and Anwar (2020) some teachers and students urged online learning approach. The main factor of argumentation occurs because the lack of satisfaction during learning process (Putri et al., 2020). The dissatisfaction occur is due to the constraint to provide in-depth information and explanation towards students. This problem included the subjects and topics relate to technical and practical preparation (Korkmaz & Toraman, 2020). Thus, the national

education agenda has never side-lined the online learning system. The argument because online learning system has been practiced by other countries such as United Kingdom, United States, Australia, Singapore, Japan and others. All implementation support students for completing their education Korkman and Toraman (2020) support about the online learning successful depends on internet coverage. Without the internet, online learning will be an ineffective. The term online learning often associated with distance learning systems as based on localities (Barnett, McPherson & Sandieson, 2013).

Today, the technological advances are as part of the prerequisite in education. The deviations in education development plan and learning style occur drastically of the technology increasing (Norfarahi, Mohd Isa & Khadijah, 2020). For the commitment, Malaysia learning development plan also emphasizes the aspect of educational transformation towards technology usage globally (Hafiza, Supyan & Ahmad Rizal, 2020). Learning and education are very important to develop human capital and resources. The implementation will be guide and conducted via of policy formulation, budget and cost allocated for community contribution. Consequently, Adlina et al. (2020) have mention about the development of local community depended to younger generation. Majority of younger appointed by governments for further their studies. Furthering studies contribute for country education either the fee will give income for country based on monthly or yearly payment. However, some student has problem especially during pandemic because the limitation of Online learning tools, instrument and excellent of internet coverage. Some of them, come from poor family or categorized as B40 family income. This problem become as a challenge for student achieve a successful learning outcome.

According to Unger and Mairan (2020) the phenomenon of online learning define as virtually because no physical contact among teachers and students. All explanations and guidance activity conducted via online interaction. The Movement Control Order (MCO) force all education sectors closed include university. Students not allowed stay at campus except for certain issues and matters. Some student satisfied with that decision and most of them fell anxiety. The limited of internet capabilities at home effect the student learning process. Really, Online learning facing with weakness. Some of student argue the satisfaction of Online learning. Student argue that no physical contact and lack of deep explanation from lecturer. Besides, the impression of learning is not enthusiastic compare with actual situation. The group discussion capabilities also limited. Some of students never interact with their friend as face to face expressly first year students (Hafidzul, 2020).

Literature Review

Students' acceptance and readiness for online learning not consistent depends on subject contain and requirement. For example, technical subjects need an activity and practical. Compare with theoretical subject more easy to understand and explain via Online (Blizak et al., 2020). For example, the general studies among the compulsory subjects that required study by students as one of requirement for graduation (Norfarahi, Mohd Isa & Khadijah, 2020). Henceforth, Adlina et al. (2020) found 19 public universities in Malaysia super active, informative and interactive e-learning implementation for help students to learn as virtually. Adlina et al. (2020) also highlight the subject of TITAS as a conceptual subject. All the students surveyed agreed that learning TITAS subjects online super appropriate for assist students during discussions. The discussion enable implement in holistic situation without time and place constraints. This proves online learning is holistic and can be done without time and location limitations.

According to Hafidzul (2020) report, teaching and learning activities still need to be continued in all Institutes of Higher Learning until 31 December 2020. Only five categories were given flexibility return to the campus. The inclusion of the five categories should be done by phase and stages. Such flexibility given for practical student's students who have a high condition for physically present. Physical learning involvement must include learning in the laboratory, workshop, studio or require special instruments and tools. In addition, students who follow the Technical and Vocational Education and Training (TVET) program also allowed to return since August 2020. Among the educational institutions that involve TVET learning are Polytechnics and Community Colleges. Based on some announcements given by the Ministry of Higher Education, the institution is urged to always comply with the Standard Operating Procedures (SOP) to ensure the safety and health among student's campus absolutely guaranteed (Hafidzul, 2020).

According to Adnan and Anwar (2020), online learning goal determine for continuing a successful and smoothness learning system during the COVID-19 pandemic. Unger and Mairan (2020) supported about continuing learning during

pandemic via Online important even student not required to attend campus as physically. Even study not required to attend as physically, learning process still continuing and sustain. Indirectly, pandemic will not disrupt student's learning time until the graduation as determination by university bodies. Thus, Chao et al. (2020) found that online learning is a wise move to ensure that the teaching and learning system continues and survive. As referring towards 21st century educational continuously applied support several platforms and learning approaches through lecturer's plan.

For example, MOOC platform or known as Massive Open Online Courses that was introduced before the advent of the COVID-19 pandemic as a step taken by lecturers in diversifying teaching (Hossain, Md. Shofiqul & Joanne, 2015). In addition, MOOC also as a part of blended teaching and learning activities (Abu-Shanab & Musleh, 2018). Basically, via MOOC platform students tend to exposed in technological skills so that 4.0 based learning were achieved. According to Cole and Timmerman (2015), the MOOC platform able to attract academics at home and abroad. With the holistic situation, communication between students and instructors enable implement through a various of platform. However, a study conducted by Norfarahi, Mohd Isa and Khadijah (2020) shows the issues and challenges of using MOOC in the teaching and learning process. The study found that the level of student readiness for the MOOC platform is still moderate although previous studies show that this platform has numerous positive insinuations. Among the main obstacles that were successfully identified in the study was the unfortunate source of internet coverage causing students' demoralised and fail to be accomplished well. Limitations on internet coverage are indeed the cause and barrier to successful in online learning among Malaysian students. An inadequate coverage aims students to not be able to run the teaching and learning system fluency and conductively. In a Hafiza, Supyan and Ahmad Rizal (2020) study conducted on the acceptance of the MOOC platform among Universiti Kebangsaan Malaysia (UKM) students, they found that the MOOC platform was well received by UKM students. This is due to the respondents giving views based on online learning while on campus. Being on campus was perfect because the equipment and coverage provided by the university is adequate.

In the face of the many challenges of conducting online learning, the emergence of the COVID-19 pandemic force students to accept and practice Online learning for study. For example, the drastically of pandemic was declare as a COVID-19 pandemic in the world. The pandemic impact education sectors including public and private institutions of higher learning. In ensuring that the learning system is not affected and underdeveloped, government suggest and determine all institution so that implement Online learning. However, Online learning fronting the difficulties among people who practical that situation such as teachers, lecturers, parents and students. Most of them critique the accessibility of the internet system, the stability of the learning platform and the skills of teachers as a challenge during Online learning implementations.

The influence and challenge mostly for subject or hands on course. For example, medical students having an immense problem when students required to practise their syllabus. Muller (2020) explain this pandemic disturbed learning system of medical students for higher achievement. Medical learning requires a skilful and practical approach. Theoretical and understanding approaches need to be done carefully and realistically. Constraints during the pandemic greatly disrupt the learning system of medical students. According to Pei and Wu (2019) the process of imagining and learning theoretically is less to help medical students because it requires practical and hands-on to measure the effectiveness of their learning. Indirectly it inhibits online learning satisfaction. We are also aware that medical students need specialized laboratories to learn. The equipment and instruments are within the campus area. Indirectly, students may only be able to dominant in theoretically as well but they are feeble in practice and implementation.

From other perception, Brooks et al. (2020) mention that emotional management problems in handling online learning required to completed. For example, rural area most difficult to reach the internet. Besides, teachers also have problem during online learning at home (Agus et al., 2020). Some of teacher also have another role to guide their children at home. Techers will create bad emotion if he/she need work from home. The role will create conflict among career and role as teacher. Besides, parents may also face emotional stress problems for help children during learning time even he/she still have their commitment via online such as meeting, workshop and others (Hiremath, 2020). Furthermore, problems arise when parents categorized as the low-income group and fail to provide completeness including internet, Wi-Fi, laptops, smartphones and so on. It is more disquieting if a family has many children and all of them need online learning simultaneously at the primary, secondary and university levels. Whereas online learning is a holistic and flexible learning system, it also still has some weaknesses and constraints. The weaknesses and constraints are mostly due to the problem of underprivileged internet coverage. Weaknesses of coverage disrupt the content and quality of knowledge delivery. Hence, it also creates and generate burden and emotional problem among dropout students (Chao

et al., 2020). If this problem occurs in long term time, it may effect students' academic reputation. Perhaps, student learning time will have changed and to belong mode. Specification of study problems will be discussed in the study problems section (Korkmaz & Toraman, 2020).

Problem Statement

According to Michael (2020) world was affected by the spread of coronavirus. This phenomenon prerequisites community and academia to accept vicissitudes in the education system online. Patterns and designs of change in technology-based education are increasingly being used since the spread of the COVID-19 pandemic in Malaysia. Actually, the pandemic was started in mid-December 2019 in Wuhan City, Hubei, China until spread the worldwide. The outbreak of this rather aggressive outbreak caused the World Health Organization (WHO) to announce the outbreak as a pandemic begin on March 11, 2020 (Warwick & Roshen, 2020). COVID-19 pandemic infection statistics are seen to be increasing over time. Even if the reduction in infection is seen to be low around July to August 2020, but the increase continues sharply until October and November 2021. Afterward, the education sector continues to be declared to follow online learning until 31 December 2020.

In line with the desire for educational development, on-line education has become as a part of the interests and requirements in the academic world (Kang et al., 2010). However, there are some problems to inhibit the satisfaction of student. Actually, there are three main domains identified such as student interaction with lecturers, interaction between students in group assignments and the smoothness of learning in terms of facilities and student environment to learn (Unger & Meiran, 2020; Adnan & Anwar, 2020; Singh and Singh, 2020).

Restrictions on internet coverage and the convenience of online learning tools are often obstacles and disturbed student learning process interaction. According to Lembani et al. (2020), most of rural student have limited internet coverage. The limitation to have learning tools such as laptops and smartphones motivate students during learning sessions (Zhou et al., 2020). Students who limited sources such lack of instrument and no gadget, laptop and smartphone definitely create a negative thinking about online learning. In addition to the convenience aspect, uncomfortable environment such a noise and narrow space also disturb negative emotion. The emotion will have disturbed because of the lowest quality and level of acceptance in unstable condition (Huang & Zhao, 2020).

In terms of quality of lecturer evaluation, it could be downgrade quality of student scoring. Internet coverage will interfere student interaction with lecturers include during presentation evaluation sessions. This technical problem may be due to uncontrollable internet speed. It is more difficult when there are teachers or lecturers who do not competent in Online learning. Therefore, lecturers and teachers should be creative and able to capable a various of Online teaching techniques either synchronously or asynchronously (Hafiza, Supyan & Ahmad Rizal, 2020; Adlina et al., 2020; Barnett, McPherson & Sandieson, 2013).

According to Korkmaz and Toraman (2020) discussion and communication between friends uneasy to manage if the Online system corrupted and disturbed via unstable coverage. The smoothness of internet noteworthy to ensure students enable to discuss with group member to complete their assignment and project. Depth and detail explanation required to determine criteria of assignment and project synchronous with subject rubric and learning outcome. However, for technical subject that need a skill and certain hands on activity, it will occur problem and perhaps effect the interactive learning (Adlina et al., 2020). Lecturer or teachers accomplished the learning process via other method to confirm student will have achieved the requirements. Other method is augmented reality approaches for reality and live learning process. Besides, supported video for simulation or vestibule also encourage the technical learning process effectively. In this study, researcher conducted a study for first semester students from various background of course and faculty. Generally planning, researcher will identify first semester student satisfaction via Online learning during and midst COVID-19 pandemic. Furthermore, the justification on selected are students have no learning experience on campus and do not her/his friend and lecturer via physical and face to face interaction.

Research Objectives

There are three objectives of the study that will be identified listed as below:

1. To identify level of student's satisfaction during interact with lecturers
2. To identify level of student's satisfaction during interact with classmates

3. To identify level of student's smoothness via online learning

Research Methodology

This research conducted as quantitative study. Researcher were collect the finding and data via questionnaire distributed towards students through google form. All question develops based on the justification of problem and objective requirement for achieve. The previous researcher was analysis and synthesis for looking the appropriate items in questionnaire. Hence, researcher refer to current mass media report for gain a current data as article support discussion. Based on the study, researcher found 15 appropriate question to accomplish in the research question. There are 3 main domains of research focus. First, level of student's satisfaction during interact with lecturers, second, level of student's satisfaction during interact with classmates and third, level of student's smoothness via online learning. All questions in questionnaires distributed through a google form toward first semester students. All questions were measured using a five-point of Likert Scale. Besides the 15 questions in the form, the researcher also asked about background questions of students' studies such as gender, race, field of study and residential area. All questions were analysed used descriptive analysis. Researcher success found a 185 respondents for completed and accomplish objective of this researcher.

Findings

Respondent Background

According to figure 1 finding, researcher obtain 90 respondents are female and 95 are male. In race category, majority of respondents are Malay (136 student) and follow by Chinese (36 student) and Indian (7 student). Only 6 students found as others race (refer figure 2). Resulting based on figure 3, there are five domain of study specialization background. Majority student are engineering (65 student), technology (45 student) and management (39 student). While, only 22 students are science field and 11 students are from education background. Since this research about student satisfaction with online learning, then the researcher provides the background of student residence location. The number of respondents consisting of urban population is higher than rural areas. These findings are publicised in Figure 4 whereby 108 students living in urban areas and another 77 living in rural areas.

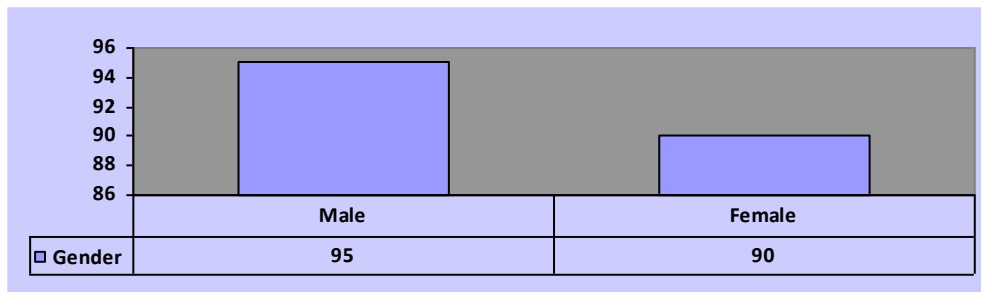


Figure 1. Gender background

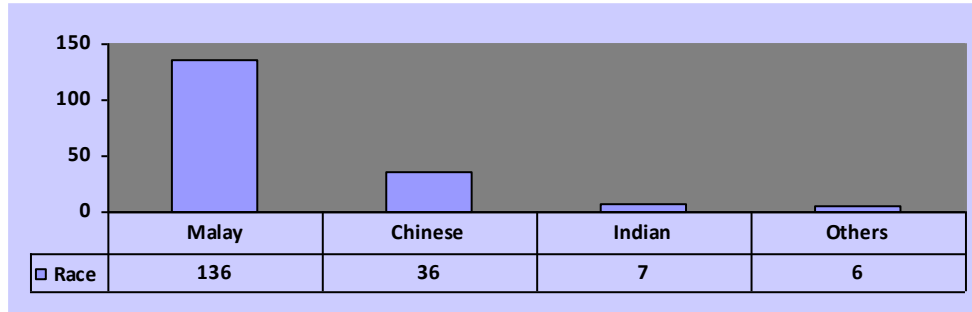


Figure 2. Race Background

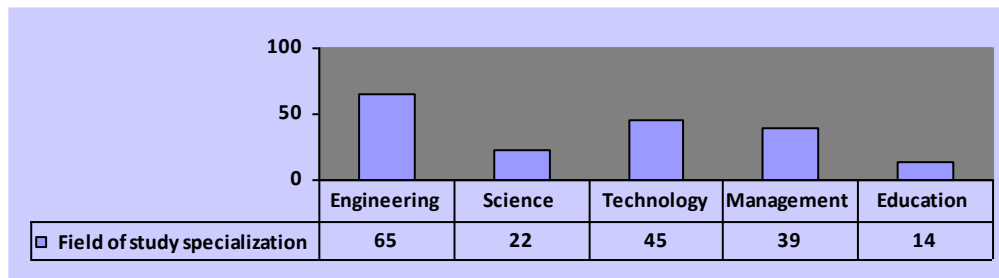


Figure 3. Field of study specialization background

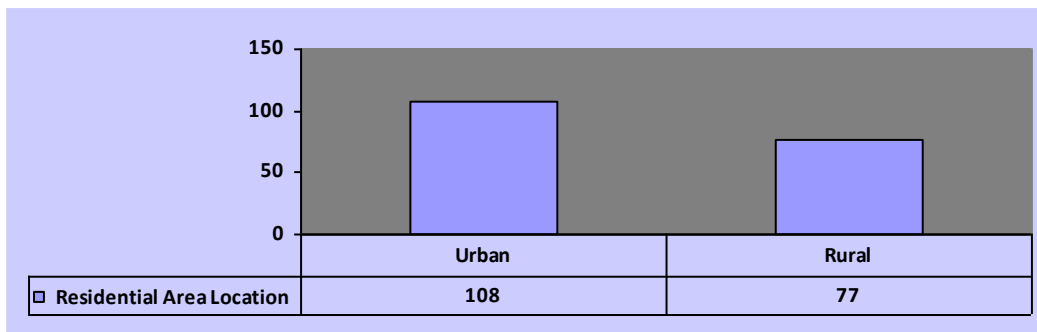


Figure 4. Residential Area Location Background

Objective 1: The level of student’s satisfaction during interact with lecturers

Table 1 and Figure 5 shown the findings of research for objective 1. The results confirm that majority of students achieved high level of satisfaction while interacting with lecturers. Most of students agree about the interaction process with the lecturer happen as regular and easily. Accordingly, there are no barriers and constraints for students to get information from their lecturers. As the evidence, 65 percent of the students agreed that they enable to achieve and each contain of explanation by lecturers. However, only a single student fails to receive a good feedback from lecturers. Next, third question having a similarities and synchronous with question number four. For the item regarding perspective on synchronous learning, 20 student disagreed and 3 of them strongly disagreed about the perspective. That mean majority of them enable to follow the synchronous learning via Online activity. However, the limitation and barrier of internet coverage perhaps influence the smoothness of learning process activity. Overall, researcher may conclude that half of student agree he/she may obtain a positively online learning which is related with lecturer interaction. The negatively impact perhaps occur via the limitation and problem in internet coverage. Other than that, probably students have not provided conducive environment or instrument for preparation as learning material during class activity conducted.

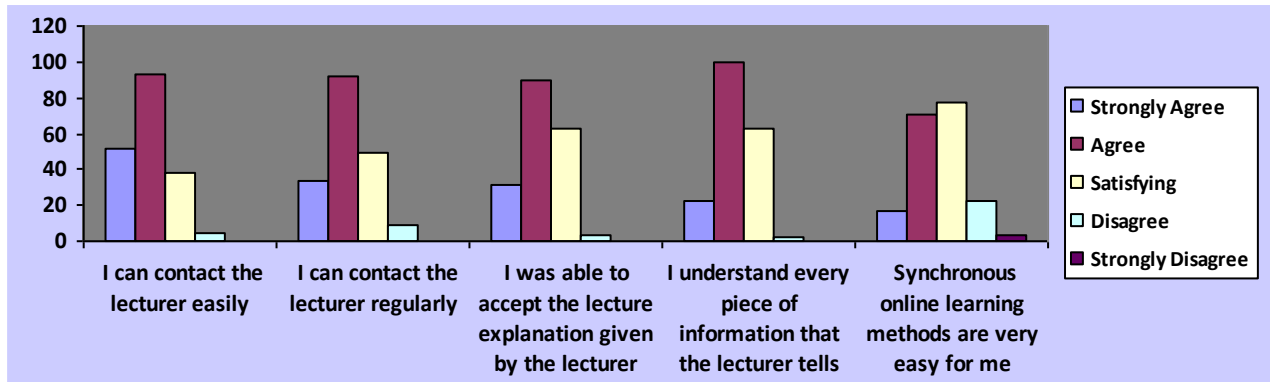


Figure 5. The satisfaction of student interaction with lecturer

Table 1. First objective findings based on questions

Question	<i>Objective 1</i>				
	The Level of satisfaction of interaction between students and lecturers				
	Strongly Agree	Agree	Satisfying	Disagree	Strongly Disagree
I can contact the lecturer easily	52	93	38	2	0
I can contact the lecturer regularly	34	92	49	9	1
I was able to accept the lecture explanation given by the lecturer	31	90	61	2	1
I understand every piece of information that the lecturer tells	22	100	61	2	0
Synchronous Online learning methods are very easy for me	17	71	74	20	3

Objective 2: Level of student satisfaction with classmates

The effectiveness of learning activities influenced by interaction with classmate or group assignment members. The important and understanding amongst groupmate will influenced the smoothness and process of assignment evaluation. However, Online learning facing a challenge when some of group member fail to participate and obligate with colleague. Smoothness and respectable amongst group members are important to ensure the assignment finished on the due date and successful submitted. According to figure 6 and table 2, researcher obtain that majority of students have no problem during interact with their friends or group assignment members. Besides, less than 20 percent student admit that he/she have a difficulties and limitation during friend's interaction. Overall, the distribution of findings shows that the number the number of student received quickly feedback are highest in level of 'satisfied and good'. Even though, the number of student who receive the negative feedback from group member during interaction process are lowest.

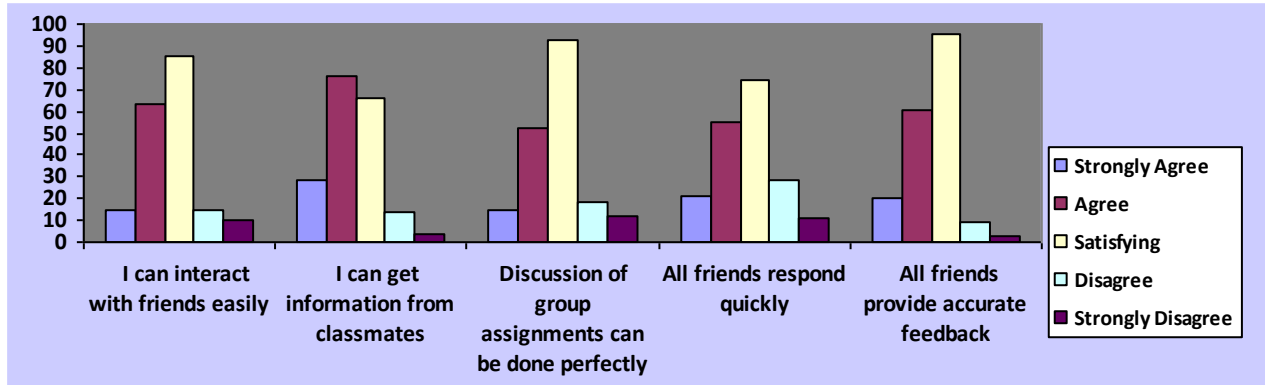


Figure 6. The satisfaction of student interaction with classmates

Table 2. Second objective findings based on questions

<i>Objective 2</i>					
Question	The level of student satisfaction with classmates				
	Strongly Agree	Agree	Satisfying	Disagree	Strongly Disagree
I can interact with friends easily	15	63	85	15	7
I can get information from classmates	28	76	66	12	3
Discussion of group assignments can be done perfectly	15	52	93	15	10
All friends respond quickly	21	55	74	26	9
All friends provide accurate feedback	20	61	95	7	2

Objective 3: Level of student's smoothness via online learning

Third objective have discussed and representative at table 3 and figure 7. Third objective elaborate about student's smoothness via online learning findings. First question found majority of students strongly agree and satisfied (strongly agree = 22, agree = 85 and satisfactory = 73) about the understanding of topic lecture session. This shows that students enable to understand and accept online learning as perfectly. As expected, the findings of the second question will indeed be a challenge and constraint during online learning. The limitation occurs because of problem of internet coverage and limitation. The impact of internet disturbing effect student's emotion and contribute negative leaning motivation among student. Conceivably, student will sense demotivated and loss of interest to study. Only 59 admit that internet coverage not disruption. Subsequently, majority of students agree the limited of internet impact their learning process during online class. Next, 87 percent of students agree and satisfied with their learning environment. In addition, there are 83 percent students have a good equipment, material and gadget for fulfil their learning process via online. From the last question in questionnaire, we can conclude that majority of student agree and satisfied with their learning environment. 70 students agree that their learning is in a conservative area.

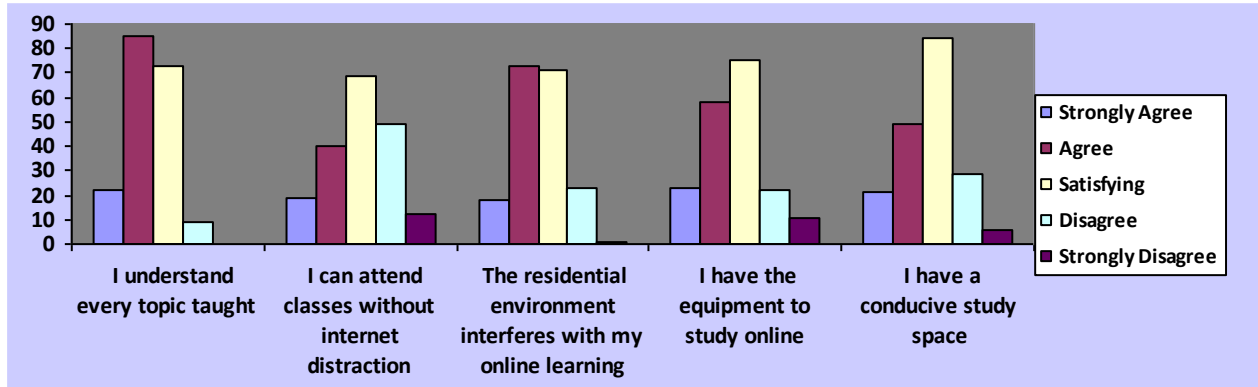


Figure 7. The student's smoothness via online learning

Table 3. Third objective findings based on questions

Objective 3					
Question	The level of fluency in online learning				
	Strongly Agree	Agree	Satisfying	Disagree	Strongly Disagree
I understand every topic taught	22	85	73	5	0
I can attend classes without internet distraction	19	40	69	46	11
The residential environment interferes with my Online learning	18	73	71	22	1
I have the equipment to study Online	23	58	74	21	9
I have a conducive study space	21	49	84	27	4

Discussion, Conclusions and Recommendations of Research

Nowadays, online learning required to accept with all people because the significant extremely use for all institution and school. Starting from primary and secondary school, online learning was implement in higher institution and university either in government or private sector. Thus, academia and educator prerequisite to be holistic and diverse learning platform implementation. Moreover, parents essential to fully support their children for online learning. Government may support and donate some facilities and tools for student. Government need to identify student family income so that they may know average of each student family ability. As we know in Malaysia, we have a lot of B40 student have poor situation and limited instrument for online learning activity.

The acceptance of online learning required because this is trendy and significant for academic activity. Online learning has been practiced in many countries such as Singapore, Japan, Indonesia and others. In line with the development of technology and Industry 4.0, we should emphasis on blended learning as it is physically and face-to-face during class session. This learning concept needs to be applied begin from the primary and secondary school levels. The implementation was not surprise or new norm among students if this approaches practice since school requirement. Parents and educators need to acknowledge that today's is a Y generation compare with them perhaps come from X generation or boomer generation. Therefore, it needs to be strengthened in preparation for 21st century learning.

The problem of limited coverage of internet delayed student information and learning reach information. Student tend to become demotivated and refused to continue and follow learning schedule for each time. Motivation is an important because it greatly affects the emotional stability of students. Not only students, the emotions of lecturers, teachers and instructors need to achieve a perfect level of happiness so that varieties can help students to acquire knowledge holistically (Brooks et al., 2020; Bolliger & Armier, 2013). To ensure that the online learning system runs smoothly, several suggestions should well provide practiced including using asynchronous learning methods. Restrictions and limitations of internet coverage may affect particularly in rural areas (Lembani et al., 2020). Via of video recording, lecturers and instructors enable to provide teaching videos as creatively and realistically for student's facilitation. Besides, video recording also an approaches for student reference. Student allow to repeat the video instruction for

understand certain topic (Syamsulaini & Mashitoh, 2016). So, researcher suggest lecturer record for each class session to ensure all student allow received as well each branch of learning outcome (Brecht, 2012; Michael, 2020).

Another suggestion regarding learning methods are use the simple interaction or other platform such as online conversations like Whatsapp and Telegram (Syed Lamsah, 2017). Therefore, telecommunication companies are strongly encouraged and recommended to improve the quality of their services. Indirectly, telecommunication company may increase organisation outcome from an expanding their coverage and network of company's profit. The addition of micro communications companies positively impacts the local employment opportunities. This is due for offering some position and designation such telecommunication engineers, technology coverage experts, small traders who will directly drive the local economy. Local economy and business are very affected by the spread of the COVID-19 pandemic (Aguiar et al., 2019; Ahmad et al., 2019).

Finally, the university prerequisite supports their students. There are several universities that have provided free internet data for students. Moreover, an interesting and friendly platform required to provide by university for help the interaction between lecturers and students enable run easily. For example, good E-learning development assist lecturers upload notes and others materials directly to students. In addition, lecturers currently use universal platform provided by Google companies. Google provided a lot of indicator for learning online requirement such as Google Classroom, Google Meet, Google Form, Google Drive and others (Nor Shela & Mohd Shafie, 2020). Via the new application, all students especially among university student allow to follow the learning process fluency along of pandemic COVID-19. The challenge required to overcome. Without a reliable internet access, the online learning builds a gap for student find it easier and motivate to learning as effective during pandemic. Major the world trending are often point for rapid innovation especially for online learning effectiveness for student. The nature of transition online learning may change education pattern forever.

References

Abu-Shanab, E. A. & Musleh, S. (2018). The adoption of Massive Open Online Courses. *International Journal of Web-Based Learning and Teaching Technologies*, 13(4), 62-76.

Adlina Ab. Halim, Normala Othman, Ahmad Nasir Mohd Yusof, Arfah Ab. Majid & Norasyikin Azri (2020). Keberkesanan MOOC Titus dalam pembentukan sikap mahasiswa universiti awam. *Jurnal Dunia Pendidikan*, 2(1), 40-48.

Adnan, M. & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1).

Aguiar, A., Chepeliev, M., Corong, E., McDougall, R. & van der Mensbrugge, D. (2019). The GTAP data base: Version 10. *Journal of Global Economic Analysis*, 4(1), 1-27.

Agus Purwanto, Masduki Asbari, Mochammad Fahlevi, Abdul Mufid, Eva Agistiawati, Yoyok Cahyono & Popong Suryani. (2020). Impact of work from home (WFH) on Indonesian teacher's performance during the COVID-19 pandemic: An exploratory study. *International Journal of Advanced Science and Technology*, 29(05).

Ahmad, A. H., Ibrahim, A., Ahmad, Z. H. & Masri, R. (2019). The predictors of sports tourism involvement in Malaysia: An extreme sport overview. *Humanities & Social Sciences Reviews*, 7(2), 449-453.

Barnett, J., McPherson, V. & Sandieson, R. M. (2013). Connected teaching and learning: The uses and implications of connectivism in an Online class. *Australasian Journal of Educational Technology*, 29(5).

Blizak, D., Blizak, S., Bouchenak, O. & Yahiaoui, K. (2020). Students' perceptions regarding the abrupt transition to Online learning during the COVID-19 pandemic: Case of faculty of chemistry and hydrocarbons at the University of Boumerdes-Algeria. *Journal of Chemical Education*, 97(9), 2466-2471.

Bolliger, D. U. & Armier JR, D. D. (2013). Active learning in the Online environment: The integration of student- generated audio files. *Active Learning in Higher Education*, 14(3), 201-211.

Brecht, D. H. (2012). Learning from Online video lectures. *Journal of Information Technology Education*, 11(1), 227-250.

- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N. & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet*, 395, 912-920.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J. & Zheng, J. (2020). The psychological impact of the COVID-10 epidemic on college students in China. *Psychiatry Research*, 287, 1-5.
- Cole, A. W. & Timmerman, C. E. (2015). What do current college students think about MOOCs? *MERLOT. Journal of Online Learning and Teaching*, 11(2), 188-201.
- Hafidzul Hilmi Mohd Noor (2020). COVID-19: Belajar dalam talian sehingga 31 Disember. HMetro, 27 Mei 2020. Retrieved at <https://www.hmetro.com.my/mutakhir/2020/05/583080/belajar-dalam-talian-hingga-31-disember>
- Hafiza Haron, Supyan Hussin & Ahmad Rizal Yusof (2020). Penerimaan teknologi massive open Online course (mooc) di kalangan pelajar di ukm: Satu kajian rintis. *Sains Insani*, 5(1), 142-147.
- Hiremath, P., Kowshik, C.S., Manjunath, M. & Shettar, M. (2020). COVID-19: Impact of lock-down on mental health and tips to overcome. *Asian Journal of Psychiatry*, 51, 1-6.
- Hossain, Mohammad S., Md. Shofiqul Islam & Joanne V Glinsky. (2015). A massive open Online course (MOOC) can be used to teach physiotherapy students about spinal cord injuries: A randomised trial. *Journal of Physiotherapy*, 61(1), 21-27.
- Huang, Y. & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry Research*, 20, 1-20.
- Kang, M., Heo, H., Jo I. H., Shin, J. & Seo, J. (2010). Developing educational performance indicator for new millennium learners. *Journal of Research on Technology in Education*, 43(2), 157-170.
- Korkmaz, G. & Toraman, C. (2020). Are we ready for the post-COVID-19 educational practice? An investigation into what educators think as to Online learning. *International Journal of Technology in Education and Science (IJTES)*, 4(4), 293-309.
- Lembani, R., Gunter, A., Breines, M. & Dalu, M. T. B. (2020). The same course, different access the digital divide between urban and rural distance education students in South Africa. *Journal of Geography in Higher Education*, 44(1), 70-84.
- Michael, P. A. Murphy (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy*, 41(3), 492-505,
- Nor Shela Saleh & Mohd Shafie Rosli (2020). Tinjauan literatur sistematik: Interaksi media sosial atas talian dalam kluster pendidikan dan pekerjaan. *Sains Humanika*, 12 (3), 53-65.
- Norfarahi Zulkifli, Mohd Isa Hamzah & Khadijah Abdul Razak (2020). Isu dan cabaran penggunaan MOOC dalam proses pengajaran dan pembelajaran. *Journal of Research, Policy & Practice of Teachers & Teacher Education*, 10(1), 77-94.
- Pei, L. & Wu, H. (2019). Does Online learning work better than offline learning in undergraduate medical education? A systemic review and meta-analysis. *Medical Education Online*, 24, 1-14.
- Putri, R.S., Purwanto, A., Pramono, R., Asbari, M. Wijayanti, L. & Hyun, C.C. (2020). Impact of the COVID-19 pandemic on Online home learning: An explorative study of primary schools in Indonesia. *International Journal of Advanced Science and Technology*, 29(5), 4809-4818.
- Singh, J. & Singh, J. (2020). COVID-19 and its impact on society. *Electronic Research Journal of Social Sciences and Humanities*, 2(1), 168-172.
- Syamsulaini Sidek & Mashitoh hashim (2016). Pengajaran berasaskan video dalam pembelajaran berpusatkan pelajar: Analisis dan kajian kritikal. *Journal of ICT in Educatiob*, 3, 24-33.
- Syed Lamsah Syed Chear (2017). Pengajaran dan pembelajaran melalui aplikasi whatsapp dan telegram di universiti swasta. *Jurnal Pendidikan Malaysia*, 42(2), 1-14.
- Unger, S. & Meiran, W. R. (2020). Student attitudes towards Online education during the COVID-19 viral outbreak of 2020:

Distance learning in a time of social distance. *International Journal of Technology in Education and Science (IJTES)*, 4(4), 256-266.

Warwick, M. & Roshen, F. (2020). The global macroeconomics impacts of COVID-19: Seven scenarios. *CAMA Working Paper 19/2020*, 1-43.

Zhou, L., Li, F., Wu, S. & Zhou, M. (2020). School's out, but class's on, the largest Online education in the world today: Taking China's practical exploration during the COVID-19 Epidemic prevention and control as an example. *Best Evidence of Chinese Education*, 4(2), 501-519.