MEDICAL STUDENTS' PERCEPTION OF FACE-TO-FACE AND VIRTUAL EDUCATIONAL ENVIRONMENT DURING COVID-19 PANDEMIC IN UNIVERSITI MALAYSIA SABAH (UMS)

by

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LIST OF ABBREVIATIONS

CoI	Community of Inquiry
DREEM	Dundee Ready Educational Environment Measure
FMHS	Faculty of Medicine & Health Sciences
OSCS	Online Student Connectedness Survey
SASP	Students' academic self-perception
SPoA	Students' perception of atmosphere
SPoL	Students' perception of learning
SPoT	Students' perception of teaching
SSSP	Students' social self-perception
UMS	Universiti Malaysia Sabah

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ABSTRAK (BAHASA MALAYSIA)

PERSEPSI PELAJAR PERUBATAN KE ATAS PERSEKITARAN PEMBELAJARAN SECARA BERSEMUKA DAN SECARA DALAM TALIAN SEMASA PANDEMIK COVID-19 DI UNIVERSITI MALAYSIA SABAH (UMS)

Pengenalan: Persekitaran pembelajaran yang positif boleh membentuk keadaan yang baik untuk meningkatkan kepuasan, kesejahteraan hidup, kejayaan dalam pembelajaran serta pengukuhan interaksi sesama pelajar, pensyarah dan juga organisasi. Keadaan ini seterusnya akan menghasilkan graduan yang berkualiti. Oleh itu, tidak dinafikan lagi kepentingan untuk sesebuah organisasi untuk menilai keadaan persekitaran pembelajaran yang disediakan. Walau bagaimanapun, dengan kemajuan teknologi pada masa kini, bukan sahaja persekitaran pembelajaran secara bersemuka yang perlu dititikberatkan. Penilaian persekitaran pembelajaran secara dalam talian juga diperlukan memandangkan lebih banyak sesi pembelajaran termasuk pembelajaran perubatan dijalankan secara dalam talian terutamanya di musim pandemik ini. Tujuan utama kajian ini adalah untuk mendalami keadaan persekitaran pembelajaran secara bersemuka dan juga secara dalam talian di Fakulti Perubatan dan Sains Kesihatan (FPSK), Universiti Malaysia Sabah (UMS) melalui persepsi para pelajar perubatan semasa pandemik COVID-19. **Metodologi:** Satu kajian keratan rentas telah dijalankan yang mensasarkan kesemua pelajar perubatan dari tahun pertama ke tahun kelima di FPSK, UMS (n=456). Persepsi para pelajar terhadap persekitaran pembelajaran mereka dikaji menggunakan borang soal selidik 'Dundee Ready Education Environment Measure (DREEM-17)' versi diubah suai dan borang soal selidik 'Online Student Connectedness Survey (OSCS-25)'. Data yang dikumpul kemudiannya dianalisis menggunakan SPSS versi 28. Kelulusan etika telah diperolehi

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melalui jawatankuasa etika di kedua-dua buah universiti, Universiti Sains Malaysia (USM) dan juga UMS di mana kajian ini dijalankan. **Keputusan:** Sebanyak 329 pelajar daripada jumlah keseluruhan 456 pelajar perubatan UMS telah mengambil bahagian dalam kajian ini (72.1%). Persepsi pelajar terhadap persekitaraan pembelajaran adalah positif atau di atas purata dengan skor min 2.93 (SD = 0.76). Manakala, persepsi pelajar terhadap keterlibatan semasa pembelajaran dalam talian juga adalah di atas purata atau sederhana dengan skor min 2.60 (SD = 0.79). Tidak ada perbezaan ketara bagi persepsi terhadap kedua-dua persekitaran pembelajaran secara bersemuka dan atas talian di kalangan jantina pelajar yang berbeza. Namun begitu, terdapat perbezaan ketara di kalangan pelajar mengikut fasa pembelajaran di mana para pelajar klinikal memberikan persepsi yang kurang terhadap pembelajaran dalam talian berbanding dengan para pelajar pra-klinikal. **Kesimpulan:** Melalui kajian ini, dapat disimpulkan bahawa para pelajar perubatan di FPSK, UMS lebih selesa dengan persekitaran pembelajaran secara bersemuka atau pembelajaran teradun berbanding dengan pembelajaran secara dalam talian sepenuhnya, terutamanya di kalangan para pelajar perubatan di fasa klinikal. Selain itu, kurangnya persepsi terhadap sistem sokongan bagi kesejahteraan hidup membuka lagi ruang kepada pengurusan FPSK, UMS untuk menjalankan kajian yang lebih menyeluruh dalam pelaksanaan dan keberkesanan sistem sokongan pelajar sedia ada.

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ABSTRACT

MEDICAL STUDENTS' PERCEPTION OF FACE-TO-FACE AND VIRTUAL EDUCATIONAL ENVIRONMENT DURING COVID-19 PANDEMIC IN UNIVERSITI MALAYSIA SABAH (UMS)

Introduction: A positive educational environment creates a welcoming environment that boosts satisfaction, well-being, academic success and collaboration among students, teachers and organizations which in return produces quality graduates. Knowing these effects, it is no doubt about the need for an organization to evaluate its educational environment. However, with the advancement of technology, it is now not only face-to-face teaching and learning activities that need a good educational environment. There is also a need to look into the virtual educational environment as more teaching and learning activities, including medical education, are being undertaken online especially during pandemic. The aim of this study is to explore the physical and virtual educational environment condition in Faculty of Medicine and Health Sciences (FMHS), Universiti Malaysia Sabah (UMS) from medical students' perspectives during COVID-19 pandemic. **Methodology:** A cross-sectional study was carried out with the target population of all medical students from year one to year five in FMHS, UMS (n=456). The perception of students toward their educational environment was measured using the shortened version of Dundee Ready Education Environment Measure (DREEM-17) and Online Student Connectedness Survey (OSCS-25) questionnaires. The quantitative data was analysed using SPSS version 28. Ethical approvals were obtained from the Human Research Ethics Committee of both universities, Universiti Sains Malaysia (USM) and UMS, where the study was conducted. **Results:** A total of 329 out of 456 medical students

responded (72.1%). The students' perception of physical educational environment was above average or more positive than negative with a mean score of 2.93 (SD = 0.76). While students' perception of online connectedness in virtual learning was also above average or moderate with a mean score of 2.60 (SD = 0.79). There is no significant difference in perception of both physical and virtual educational environment between sex of respondents but there is a significant difference between pre-clinical and clinical year students where the latter perceived lesser in the virtual educational environment.

Conclusion: The study findings conclude that medical students in FMHS, UMS perceived a better physical educational environment compared to a virtual one indicates their preferability for physical or blended learning instead of fully online learning in medical education, especially among clinical year medical students. Lower perception of support system in students' well-being suggests the need for further evaluation on the implementation and effectiveness of the current students' support system in FMHS, UMS

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CHAPTER 1 INTRODUCTION

1.1 Title of study

Medical students' perception of face-to-face and virtual educational environment during COVID-19 pandemic in Universiti Malaysia Sabah (UMS).

1.2 Background of study

An educational environment as defined by Hiemstra in 1991 is "all of the physical surroundings, psychological or emotional conditions and social or cultural influences affecting the growth and development of an adult engaged in an educational enterprise". There are several more terms used as virtual synonyms for educational environment like learning climate or learning environment. The educational environment impacts both students and faculty members at various levels of systems. As a first step towards developing measures in order to improve the educational environment of any institutions, we need to have a comprehensive understanding of the educational environment in general (Gruppen et al., 2017).

Research into educational environment began in the 1930s and accelerated with the work of Pace and Sten in 1958 and Moos in 1974. It began as qualitative observation and interview approaches to determine the educational environment, but the strategies were eventually transformed into more quantitative research. Understanding the educational environment is vital for effective management of learning, development and change within the health professions (Genn, 2001a; Harden, 2001).

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It is well known that a positive educational environment creates a welcoming learning environment that boosts satisfaction, well-being, academic success and collaboration among students, teachers and organization (Gruppen et al., 2018). Knowing these effects, it is no doubt about the need for an organization to evaluate its educational environment.

However, with the advancement of technology, it is now not only face-to-face teaching and learning activities that need a good educational environment. There is also a need to look into the virtual educational environment as more teaching and learning activities, including medical education, are being undertaken online.

1.3 Educational environment in Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah (UMS)

As mentioned before, the educational environment includes individual development, social interaction between learners, educators and administrators, and also the physical spaces as well as virtual spaces in an institution.

Universiti Malaysia Sabah (UMS), where this research was conducted, is the 9th university in Malaysia established in 1994, which is relatively a 'young' university in this country. In 2003, Faculty of Medicine and Health Sciences (FMHS, UMS), previously known as School of Medicine UMS, set out to design a programme based on the requirements defined at that time in Sabah, Northern Borneo of Malaysia.

The medical programme offered in FMHS, UMS spans over a period of five years and divided into pre-clinical modules for year 1 & 2 and clinical postings for year 3, 4 and 5. It adapted the curriculum model by Harden known as 'SPICES' which

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are S-student-oriented, P-problem-based, I-integrated, C-community-based, E-electives and S-systematic model (Harden et al., 1984).

The FMHS, UMS has adequate physical facilities for students and also staff to support academic activities and curriculum delivery. This includes lecture halls, auditorium, seminar rooms, problem-based learning rooms, clinical skill laboratory and multi-purpose laboratory. This is further supported by Ibnu Sina Resource Centre (one of the platforms for students to study throughout the display of anatomy specimen models as a material education resources), computer laboratory and student recreation room. Internet access is available in all student's facilities. A large central library with a satellite library in the faculty enables the student access to information any time throughout their five years of medical training.

Other facilities include a student centre complete with counselling services, student study area and recreation room. Grocery stores, automatic teller machine and cafeteria are also available in the student hostels. The university has a mosque, a modern sports complex, and libraries, which are located in the main campus. Health services for students are provided by 'Pusat Rawatan Warga', UMS Polyclinic King Fisher, panel clinics and hospitals throughout Sabah.

Other than these physical facilities, it is also essential to provide a supportive environment especially to cater for mental health of the students. It is well known that higher education has always been regarded as a highly stressful environment for students, especially those in medical training including UMS (Musiun et al., 2019; Saiful et al., 2011). Thus, FMHS, UMS provide counselling services for those in need. Central counselling committee and mentor-mentee system were established for this. Committee members include members of medical education department, module

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coordinators, counsellor and year coordinators. Students with suspected mental health issues are referred to university's counselling services; Psychology One Stop Centre provided by Faculty of Psychology and Education. Whenever necessary, the students are referred to psychiatrists for further management.

One important aspect of providing good educational environment is a two-way communication between students and educators. Therefore, FMHS UMS also created a complaint mechanism for its students. Students are able to give feedback and complaints electronically or through the feedback boxes available in FMHS. Complaints can also be channelled through the university's student affairs department or through the faculty's administrative office. Students in need of support are also identified by the mentors for pre-clinical year students and module coordinators for clinical year students based on student's poor performance (e.g. attendance issue, below average continuous assessments performance, behavioural issues with lectures, staff or peers).

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To our knowledge, up till today studies on educational environment have never been conducted in FMHS, UMS. Therefore, this study was designed to assess the educational environment in our institute that will locate areas of concern that may be unintendedly overlooked by educators and the organization. This is important because findings from this study can guide the top management to focus on what is lacking in order to improve the educational environment for all FMHS, UMS students as their main stakeholders and other stakeholders as well.

1.4 Justification of study

The medical school is a learning institution that grows and adjusts its environment and curriculum via the analysis of its educational environment. Educational environment considerations in medical schools will certainly promote medical schools as a learning organization, together with continuous quality development and innovation. If medical schools are not established as such, health quality and sustainability might be jeopardized (Genn, 2001a; Harden, 2001).

Faculty of Medical and Health Sciences, Universiti Malaysia Sabah offers medical degrees since 2003. One of the faculty's goals is to produce high-quality graduates who are highly skilled, responsible, and have a holistic approach to medicine and health sciences knowledge. FMHS, UMS also strive to achieve sustainable quality education. Hence, a solid understanding of the educational environment via students' perception as the main stakeholder in medical education is vital to ensure continuous improvement of the educational quality and sustainability in FMHS, UMS.

From the literatures, studies on students' perception of their physical educational environment using DREEM questionnaire as a measurement tool has been widely used across places by medical and allied health educators (al Moaleem et al., 2020; Arokiamary et al., 2021; Atwa et al., 2020; Yee et al., 2019; Zalts et al., 2021). A systematic review of 106 studies conducted by Chan and team in 2018, concluded that most studies were conducted in Asia and Europe within medical, dental, and nursing programs. 80.6% of studies reported DREEM scores within the range of "more positive than negative". This systematic review also found out that higher DREEM scores were associated with better past academic achievement, quality of life, resilience, positive attitudes towards course, mindfulness, preparedness for practice,

less psychological distress, and greater peer support. Therefore, we felt that it is a timely decision for this study to be conducted in FMHS, UMS.

1.5 Educational activities during COVID-19 pandemic

Nowadays, one of the challenges in education is conducting face-to-face teaching and learning sessions or providing a physical educational environment during a pandemic outbreak. According to the United Nation's Educational, Scientific, and Cultural Organization (UNESCO), the COVID-19 pandemic has interrupted the teaching and learning activities of more than one billion students worldwide (UNESCO, 2021). Many universities worldwide have moved to emergency remote teaching (ERT) via online platforms, including UMS.

Fortunately, FMHS, UMS students are allowed to come back to campus in January 2021 for hybrid teaching and learning activities. Medical students in clinical phase also are allowed to do rotation in the nearby three teaching hospitals for their clinical studies. However, in June 2021, Malaysia was again forced into Movement Control Order (MCO) after being hit with the fourth wave of Covid-19 infection. Hence, a quick survey conducted in July 2021 revealed that year 1 and year 3 medical students had 50% online classes and 50% face-to-face classes. Year 2 experienced more than 70% online classes, while year 4 and 5 experienced more than 70% face-to-face classes. This is an opportunity for us to conduct a study, to know whether is there any relationship between the students' perception of the physical educational environment and virtual educational environment as all medical students had the opportunity to experience both face-to-face and virtual learning.

A study conducted by Bowers and Kumar in 2015 highlighted that online courses have higher dropout rates than face-to-face courses, which indicates that there are possibilities of high student attrition rates in online courses. Another research argues that feelings of isolation or disconnectedness in online courses are the major reason for high student attrition rates (Bolliger & Inan, 2012). With this current COVID-19 pandemic situation, the physical and psychological distance between lecturers and students can create this feeling of disconnectedness and can have an impact on the perception of virtual educational environment. Thus, it is important for us to determine the online student connectedness during this COVID-19 pandemic in order to identify the factors that influenced on it, for future improvement.

1.6 Benefit of the study

The aim of this study is to identify the educational environment condition in FMHS, UMS from medical students' perspectives. Students' perceptions are important as one of the major stakeholders in education that can give insights into the current educational environment in the faculty. Hence, it will provide evidence of the current condition of both physical and virtual educational environments in FMHS, UMS. It is hoped that the outcomes of this research will be beneficial to the students and future FMHS, UMS medical students. This study can also inform the relevant authority to improve the educational environment based on priorities. In addition, further research on a more specified educational environment and its association or impact can be made later based on the obtained results.

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