A COMPARISON BETWEEN FACE-TO-FACE AND ODL IMPLEMENTATIONS IN INCREASING COMPUTER HANDS-ON SKILLS AND SOCIAL COMPETENCE AMONG UITM CAMPUS SEREMBAN STUDENTS

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1. INTRODUCTION

Technology has been accepted as a platform for online teaching and learning among students all over the world. In Malaysia, most higher education institutions including Universiti Teknologi MARA (UiTM) have implemented online learning for students. UiTM introduced blended learning as a complementary approach to teaching and learning a few years ago. According to Bali and Liu (2018), a blended learning model or a blend of online classes has been around, however, the traditional approach is preferred and its effects on students' and instructors' experiences are yet to be fully explored.

Since the Coronavirus pandemic began, most higher institutions have adopted open and distance learning (ODL). There are increasing research trends about online learning vs. face-to-face learning. Fortune, Spielman, and Pangelinan (2011) reported no statistically significant difference in learning preference between online and face-to-face learning among 156 students enrolled in these two different learning modes in the Recreation and Tourism course at a multicultural university in Northern California, United States. Kemp and Grieve (2014) showed that undergraduate Psychology students at one of the Australian universities preferred to complete activities face-to-face rather than online. However, this paper argues that online and face-to-face activities can lead to similar levels of academic performance. In addition, students prefer to do written activities online and engage in discussion physically. Tratnik (2017) indicates significant differences in student satisfaction levels between online and face-to-face learning of English as a foreign language. Students were generally more satisfied with the face-to-face course than their online counterparts. The impacts of the pandemic situation on the education sector have given a whole new experience to students in their learning environment (Adnan & Anwar, 2020). Therefore, this study aims to compare (1) the effectiveness between face-to-face and ODL implementation in increasing hands-on skills or practical skills, and (2) the effectiveness between face-to-face and ODL implementation in increasing social competence among students. This paper also addresses the following questions:

1. What is the effectiveness between face-to-face and ODL in increasing hands-on or practical skills?

2. What is the effectiveness between face-to-face and ODL in increasing social competence?

1.1 Face-to-Face and Open and Distance Learning (ODL)

Typically, face-to-face learning in higher education involves physical interaction between students and lecturers. It promotes better understanding, improving social skills, and facilitating in performing any given tasks. According to Paechter and Maier (2010), students prefer face-to-face learning for communication purposes as it helps develop a shared understanding and establish interpersonal relations. Moreover, when students acquire conceptual knowledge in any subject matter or skills in an application, face-to-face learning is their best option. Malaysian Qualifications Agency (MQA) defines ODL as the provision of flexible educational opportunities in terms of access and multiple modes of acquisition (Rozana Sani, 2018). Open and Distance Learning (ODL) has become a new method in the Covid-19 pandemic in teaching and learning in higher learning institutions in Malaysia and globally. Although many are comfortable with face-to-face learning, the pandemic pushed ODL to be in place. For UiTM, ODL has been implemented since the start of the Movement Control Order (MCO) in March 2020.

1.2 Hands-On Skills

Hands-on materials submission is one of the hands-on skills that students need to accomplish during ODL. Mohammad, Wahab, Johan, and Mydin, (2021) indicates that in learning multimedia applications online, various ways can be implemented such as distributing softcopies of lab modules, live classes through any platforms, and providing and watching interactive videos on such applications. Previous studies by Duan, Ling, Habib Mir, Hosseini, and Gay (2005) and Potkonjak et al. (2016), claim that many studies that involve laboratory work require students to allocate much of their learning time in solving practical problems and stimulating experiences. Learning activities with hands-on exercises could help motivate students to learn more effectively. Ekmekci and Gulacar (2015), Chu and Fang (2015), and Sell and Seiler (2012) mention that virtual laboratories and simulations can be efficient tools with hands-on learning experiences and practical tools, which could help increase student enthusiasm and online experience. It would indirectly help students solve any problems related to the task given, and it could reduce workload and facilitate the learning process. However, collaborative learning is challenging in ODL due to a lack of face-to-face interaction (Adams, Sumintono, Mohamed, & Mohamad Noor, 2018).

1.3 Social competence

Based on results found by Kara, Erdoğdu, Kokoç, and Cagiltay, (2019), students could not balance and manage their time with work, education, family, and social life. The learning challenges are a lack of interest and commitment towards their education. As a result, these lead to low self-confidence among students. Salmon (2004) argues the importance of social competence is to cultivate and build the success of communication and group that has something to do with cognitive presence. Additionally, Gunawardena (1995) points out that social competence is necessary to increase communication in both traditional and technology-based classrooms. Instructors must be able to create and maintain the educational atmosphere so that students can enjoy the environment. If the social presence is low, then the level of interaction in learning is low (Gunawardena, 1995). Moore (1993) mentions that interaction is

one of the key elements in teaching and learning. Interaction is needed in face-to-face learning (Tu, 2000) and online learning too (Jung, Choi, Lim, & Leem, 2002). Inevitably, an interaction that uses the social aspect must be applied to improve student learning by enhancing student knowledge. Besides, social competence also promotes learning engagement which has been identified as positively affecting the achievement of learning outcomes (Carini, Kuh, & Klein, 2006).

2. METHODOLOGY

This study adopted a quantitative methodology involving 353 students from the Faculty of Computer and Mathematical Sciences (FSKM) and Faculty of Administrative Science and Policy Studies (FSPPP) in UiTM Cawangan N. Sembilan, Seremban Campus. Self-examined structured questionnaires were distributed via Google Forms then being analysed using Microsoft Excel to evaluate students' experience in face-to-face and ODL for semester October 2020 - February 2021. The questionnaires consisted of two sections; demographics profiles of respondents followed by questions with a 5-point Likert scale to measure the effectiveness of both implementations in increasing students' interpersonal skills. Comments and suggestions from students were also recorded at the end of the questionnaires for future improvement. Data were collected during Week 10 of the semester after the students experienced a few sessions for the lab and online discussions with team members in completing their group project assessment.

3. RESULTS AND DISCUSSION

This study reported data from 353 respondents during Week 10 of the academic semester. The respondent identified for this study consisted of students from 7 different programs from the FSKM and FSPPP in UiTM Negeri Sembilan, Seremban Campus. Figure 1 shows the percentage of students from both faculties who participated in this survey.
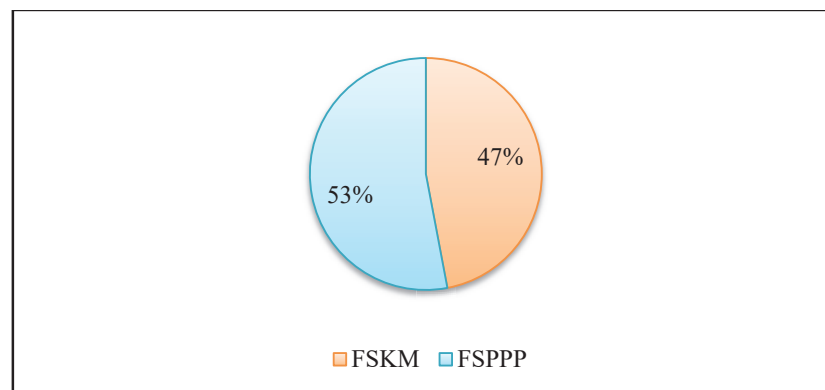

Figure 1: Percentage of Responses for Each Faculty

3.1 Students' Feedback on the Effectiveness of Face to Face and ODL Implementation in terms of increasing Hands-On Activities/Practical Skills

Face-to-face and ODL implementation in teaching and learning would significantly affect students' achievement towards their hands-on activities and practical skills. This study investigated these two approaches where students used application software to fulfill and complete their individual or group projects, partly for a particular subject's continuous

assessments in the academic semester. For example, students of FSPPP enrolled in the Management Information Systems course (CSC408) were assigned a group project to develop a simple information system using Microsoft Excel. For FSKM students, they were asked to explore and simulate available intelligent decision support systems and tools, as well as creating a simple database system. Table 1 below describes the analysed data, particularly, the percentage for each scale rated by the respondents for both implementations. 72.52% of total responses indicate that they effectively increased their hands-on activities and practical skills during the face-to-face compared to only 42.49% for ODL implementation.

Table 1: Effectiveness of Face-to-Face and ODL Implementation in terms of increasing Hands-On /Practical Skills

	Percentage				
	Definitely Ineffective	**Ineffective**	**Neutral**	**Effective**	**Definitely Effective**
The effectiveness of Face-to-Face meeting/learning in terms of increasing hands-on/practical skills	2.27%	5.1%	20.11%	42.49%	30.03%
The effectiveness of ODL meeting/learning in terms of increasing hands-on/practical skills	2.55%	16.43%	38.53%	33.14%	9.35%

This finding agrees with Blackley, Wilson, Sheffield, Murcia, Brown, Tang, Cooper, and Williams (2021) which showed that most of the respondents in their study were taking mathematics, science, and technology (STEM) also preferred to use face-to-face implementation. The disciplines of STEM offered hands-on activities for active learning such as using specific application software and finding solutions for previous case studies and real-world problem-solving. However, the study suggested effective practices and well-planned online exercises help improve online learning implementation fully.

3.2 Students' Feedback on the Effectiveness of Face to Face and ODL Implementation in Terms of Increasing Social Competence

Another part of this investigation focused on social competence among students, such as peer interaction and communication skills. Students undergo the ODL semester experiencing fully online learning, and some courses require them to collaborate with their team members to fulfill group projects or assessments. Table 2 below shows the analysed result for the effectiveness of both face-to-face and ODL implementation. Overall, 70.54% of total respondents agreed that face-to-face implementation is more effective in increasing social competence. In contrast, only 43.34% agreed on ODL implementation.

Table 2: Effectiveness of Face-to-Face and ODL Implementation in Terms of Increasing Social Competence

	Percentage				
	Definitely Ineffective	Ineffective	Neutral	Effective	Definitely Effective
The effectiveness of Face-to-Face meeting/learning in terms of increasing social competence	1.13%	3.97%	24.36%	40.51%	30.03%
The effectiveness of ODL meeting/learning in terms of increasing social competence	2.55%	16.71%	37.39%	32.29%	11.05%

4. CONCLUSION

Shifting from face-to-face learning to ODL since 2020 gave diversities of views especially through discussions on the comparisons of both implementations. This study focuses on the students' responses towards the effectiveness of both face-to-face and ODL implementations in increasing hands-on activities or practical skills as well as social competence. The analysed results in this study conclude that both skills discussed show a greater percentage for face-to-face implementation compared to ODL. However, almost half the respondents also recognized the effectiveness of ODL in increasing both skills thus giving a new perspective to educators in embedding and enhancing students' interpersonal skills rather than focusing only on cognitive abilities in the future.

5. ACKNOWLEDGMENT

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