THOUGHTS FORMULATION LAB
Science & Impact
INTELEC2023
INNOVATIONS IN TEACHING & LEARNING COMPETITION

Strategies in an online learning space: The mediating role of PEERs and AMA session

ABSTRACT

Distance learning technology was used in teaching and learning many years before the COVID-pandemic. However, during the pandemic, many problems and complaints have been surfaced. For instance, infrastructure, ineffective and loss of motivation This project attempts to create a learning process that solve the cited complaints by using systematic research by understanding the experiences of the end user. The intervention proposed here in include various modes of knowledge transfer, i.e., students were introduced to "peer-oriented education". We focused on the impact of "peers' existence in the video" as a source of motivation for learning, both pre- and post- intervention. Along with a similar framework, inquiry-based knowledge delivery was also attempted via an Ask Me Anything (AMA) session. Here, it was found that students are highly motivated when they see their peers on screen via an asynchronous teaching session. Video content was carried out in the form of a "Talk show" in which learners were constantly engaged. This showed that online learning with peers is essential to maintaining learners' attention.

INNOVATION & INTERVENTION

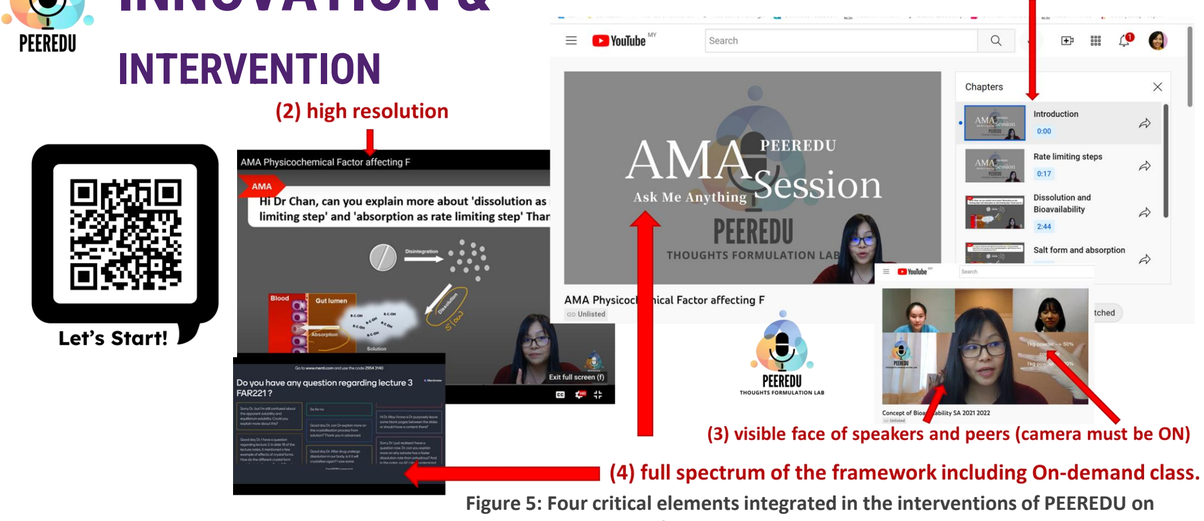

Figure 5: Four critical elements integrated in the interventions of PEEREDU on subject of Biopharmaceutics and Physical Pharmacy.

OBJECTIVES

The current product was created as solution **to improve motivation of online learning**. In order **to check its effectiveness**, survey before intervention and after intervention was carried out Figure 1 An optimize framework based on the obtained feedback in validated questionnaire was created and investigated for user experiences.

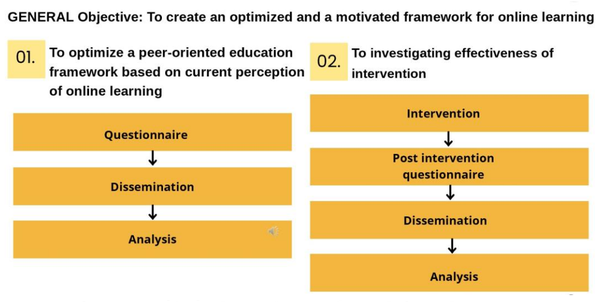

Figure 1: (01) Flow chart of studying the user experiences before and (02) after intervention

FRAMEWORK

Pre-intervention survey was conducted using the online questionnaire that consist of 4 sections, namely, (1) demographic, (2) learning experience, (3) learning practice, and (4) learning opinion with Likert-scale. The questionnaire was sent to student in School of Pharmaceutical Sciences, USM via institutional email and through other social media group. This data was served as **baseline data** in optimising and investigation of the developed intervention.

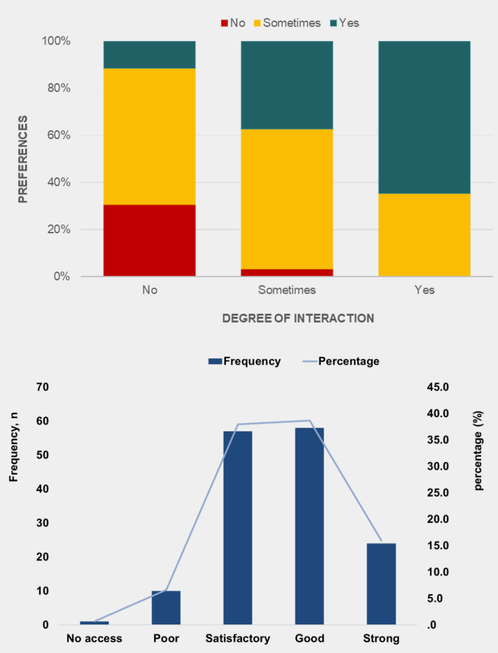

Figure 2: (a) Preferences vs degree of interaction, (b) students' internet access

The **FINDINGS** show that preferences of student are significantly correlated with the degree of interaction (Figure 2). Besides, most student revealed satisfactory or more for their internet accesses. Only <10% declare the poor internet connection that they were in [Figure 2(b)]. Further scrutinising to the platforms used and challenges faced by the student, it was found that most learning occurred in Webex or YouTube >50% with cited problems that inherently linked to learners' attribute, i.e. time management and motivation [Figure 3 (a), (b)].

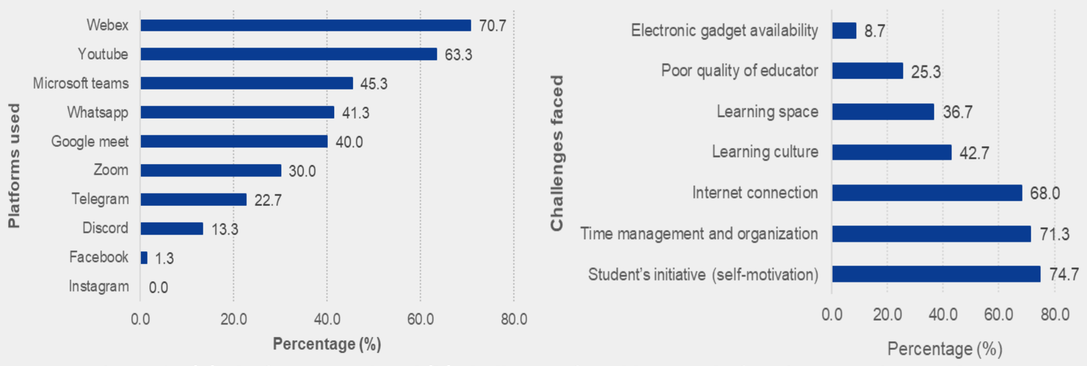

Figure 3 : (a) Platforms used and (b) challenges faced by user before intervention made

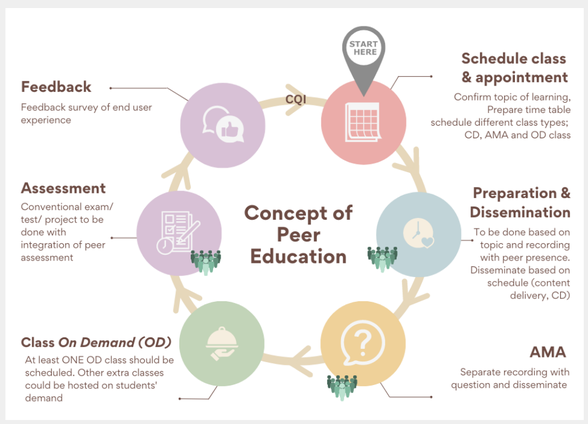

Figure 4: PEEREDU (Peer Oriented Education) Framework

Optimisation of PEEREDU framework was carried out focusing on motivation via "peer oriented education". Student is included as 1 of the panel in content delivery. The mode of delivery are in the form of "talk show" and "AMA" (Ask Me Anything) for integration of degree of interaction between instructor and learners. Hand in hand with it, YouTube has been used as main platform as video may be accessible anytime whenever stable internet connection are available. Detail operation of the framework is shown in Figure 4 & 5.

ADDED VALUES

Based on the **result of PEEREDU intervention** on 150 respondents more than 90% of the student preferred recorded video with AMA session as integrated in this framework. As this PEEREDU framework was focusing on learning with peer, student generally agreed that this framework of learning is entertaining (mean score of 4.04±0.904). Aspect of **engagement, learning difficulty, effectiveness, preferences, motivation and self learning** shows significant difference between pre and post intervention. Particularly, PEEREDU motivates and encourages students' learning with mean score of 4.01±0.809 in comparison to pre assessment that scored 3.38±0.807 (p<0.000, Figure 6). In the aspect of self-learning which is also a critical skill in this information loaded era, this framework has contributed to students' self- learning which could be seen from the mean score improvement of the respondent from 3.76±0.697 to 4.06±0.78 (p<0.028, Figure 6).

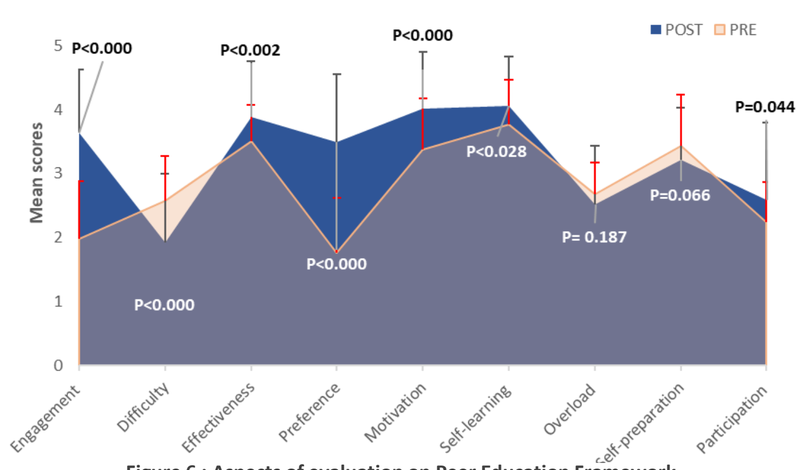

Figure 6 : Aspects of evaluation on Peer Education Framework

Table 1: Correlation of significant learning process after intervention against demographic data

	IT skills		Year		CGPA	
	r	P value	r	P value	r	P value
Different in self-learn	0.324	0.005*	-0.106	0.374	-0.254	0.031*
Different preference	0.018	0.881	-0.146	0.220	0.256	0.030*
Different effectiveness	0.351	0.003*	0.245	0.038*	-0.061	0.609

However, it is worth mentioning that most students are not interested in joining as moderator of the recording session with mean score of willingness 2.58±1.21.

Further analysis has shown that the differences in preference, engagement and perceived self-learn are closely correlated to the CGPA (Table 1). Student with higher CGPA are shown to prefer the intervention. This could be due to the baseline of their studying capacity that allow more room of changes when needed. Besides, IT skills has also been found to be critical in perceived changes of self learn process and perceived effectiveness of the intervention.

In addition, year of study was shown to significantly affect the perceived effectiveness of the intervention. Students in higher year of study perceived the intervention as more effective. This could be due to the notion of "peer" in the context of this intervention. Where student in lower year are the "COVID" cohort have not been seeing their peers face to face and the notion of peer in this sense can be vague as compare to student from higher year of study.

USEFULNESS

Based on the research element of the intervention it has been proved **to motivate** and **improve student learning experiences and enhanced "perceived effectiveness" in learning process**. In this framework **involved the peer moderator** will get personalised education while the audience will get motivation to learn. As learners are of **same generation (peer)**, the question asked to the teacher/lecturer will be catered to the generation/common knowledge of the learners' which will be highly relevant and updated!

COMMERCIALIZATION POTENTIAL

As a result of the unprecedented COVID-19, online learning will be here to stay. This has opened the market in education industry that could provide **technical framework and platform service to the educator of the yesterday** to perpetuate their valuable knowledge/ experiences / wisdom to the learners' generation of today. Motivated learning among the peers will create employment opportunities for student as the panel (peer moderator) of domain expert for topic of interest.

RECOGNITION

This framework has been copyrighted. The pre-survey data has been accepted for proceeding publication in 67th Annual Meeting of the Comparative and International Education Society (2023). Besides, the component of AMA has received GOLD Medal in IMU Inovasi Competition. The most important recognition perceived by authors are positive feedbacks from the involved students (included in video presentation).

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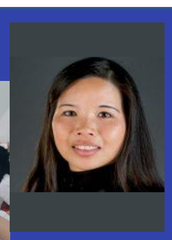
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