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International Teaching Aid
Competition 2023

Reconnoitering Innovative Ideas in Postnormal Times

iTAC

2023

iTAC 2023
INTERNATIONAL TEACHING AID COMPETITION
E-PROCEEDINGS

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PREFACE

iTAC or International Teaching Aid Competition 2023 was a venue for academicians, researchers, industries, junior and young inventors to showcase their innovative ideas not only in the teaching and learning sphere but also in other numerous disciplines of study. This competition was organised by the Special Interest Group, Public Interest Centre of Excellence (SIG PICE) UiTM Kedah Branch, Malaysia. Its main aim was to promote the production of innovative ideas among academicians, students and also the public at large.

In accordance with the theme "Reconnoitering Innovative Ideas in Post-normal Times", the development of novel ideas from the perspectives of interdisciplinary innovations is more compelling today, especially in the post-covid 19 times. Post-pandemic initiatives are the most relevant in the current world to adapt to new ways of doing things and all these surely require networking and collaboration. Rising to the occasion, iTAC 2023 has managed to attract more than 267 participations for all categories. The staggering number of submissions has proven the relevance of this competition to the academic world and beyond in urging the culture of innovating ideas.

iTAC 2023 committee would like to thank all creative participants for showcasing their innovative ideas with us. As expected in any competition, there will be those who win and those who lose. Congratulations to all the award recipients (Diamond, Gold, Silver and Bronze) for their winning entries. Those who did not make the cut this year can always improve and join us again later.

It is hoped that iTAC 2023 has been a worthy platform for all participating innovators who have shown ingenious efforts in their products and ideas. This compilation of extended abstracts published as iTAC 2023 E-Proceedings contains insights into what current researchers, both experienced and novice, find important and relevant in the post-normal times.

Best regards,

iTAC 2023 Committee
Special Interest Group, Public Interest Centre of Excellence (SIG PICE)
UiTM Kedah Branch
Malaysia

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STUDENT'S PERCEPTION OF MOOC EXPERIENCE IN FLUID POWER TECHNOLOGY CLASS

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ABSTRACT

Massive Open Online Courses (MOOCs) gained significant popularity as a low-cost and accessible alternative to traditional classroom-based education in recent years. While MOOCs had been successful in delivering courses on many subjects, the extent to which they could effectively teach Fluid Power Technology to students was still uncertain. This study aimed to examine the effectiveness of MOOCs in teaching Fluid Power Technology and evaluate students' overall satisfaction with their MOOC experience. The study used a combination of MOOC delivery, interactive learning methods (e.g., virtual labs, simulations), and a satisfaction survey to evaluate the effectiveness of Fluid Power Technology MOOCs. The survey assessed students' satisfaction with various aspects of the MOOC course, including content quality, instructor support, technical issues, and overall experience. The study also identified the strengths and weaknesses of MOOCs in teaching Fluid Power Technology based on criteria such as student achievement, engagement, retention, and feedback. The findings of this study contributed to the understanding of the effectiveness of MOOCs in teaching technical subjects such as Fluid Power Technology and provided insights into students' satisfaction with MOOCs as a learning platform. Based on the results, it was recommended that educators and institutions consider utilizing MOOCs as a method of teaching technical subjects while carefully planning the design and delivery of the MOOC to ensure maximum effectiveness and address student concerns about quality.

Keywords: Massive Open Online Courses (MOOC), Perception, Fluid Power Technology.

INTRODUCTION

Massive Open Online Courses (MOOCs) are open learning environments with many enrolled students (Gupta & Gupta, 2020). In MOOCs, participants can freely interact with available

resources and share their learning experiences in discussion forums. Online reading materials, films, tests, quizzes, discussion boards, and assessments are frequently found in MOOC resources.

The educator undergoes a simultaneous process shift when creating the MOOC curriculum, learning to generate the content, and shifting their delivery from being physically present in the classroom to a virtual existence. These procedures may cause educators to fall short of guaranteeing the acceptability of the learner (Aznam & Mas'aud, 2020). There is a need for a paradigm shift with the adoption of ICT tools like tablets, smartphones, iPads, and others, endorsed by another scholar (Ali, 2020), to reach educational goals. Individual experiences and interests might influence how students view Massive Open Online Courses (MOOCs). Various arguments favor online learning, including accessibility, cost, and flexibility (Dhawan, 2020).

In comparison to traditional courses, many MOOCs are either free or significantly less expensive. This affordability and accessibility make education more inclusive and reaches students who might not otherwise have access to a formal education. Students value the freedom that MOOCs provide. Since students may access the course materials and lectures whenever it is convenient for them, students can learn quickly and fit the coursework. Through MOOCs, students can access top-notch educational materials from recognized institutions worldwide. MOOCs have allowed learning institution to better understand how students learn and how technology-enhanced education may be improved within and outside traditional classroom (Papadakis, 2023) .

Thus, the study was conducted to investigate students' experiences and their opinions of the utility of the activities concerning how they utilized the knowledge and implemented activities from the MOOC in their practices.

METHODOLOGY

This study utilized the qualitative research method where researchers conducted an online survey among thirty-five (35) students from the School of Mechanical Engineering, UiTM Terengganu. Respondents were chosen based on the justification that; They are the class representatives for the program from each group and semester of MEM341, Fluid Power Technology course. The perspectives on online learning experiences were investigated based on their understanding of students' perceptions of their MOOC experiences (UFUTURE Platform).

To understand students' perceptions of their MOOC experiences, online survey feedback questions were distributed to the students after they completed their learning modules in the Fluid Power Technology course. The questionnaire was created with Google Forms and distributed via Telegram among the selected students. The survey focused on sections of the educator's clarity, student's perception, and Open-ended questions shown in Figure 1 and Table 1.

RESULT AND DISCUSSION

The present study examined student feedback regarding their experience with the Massive Open Online Course (MOOC) in the context of Fluid Power Technology. Figure 1 provides an overview of the key aspects mentioned by the students, shedding light on their perceptions and satisfaction with the MOOC learning environment.

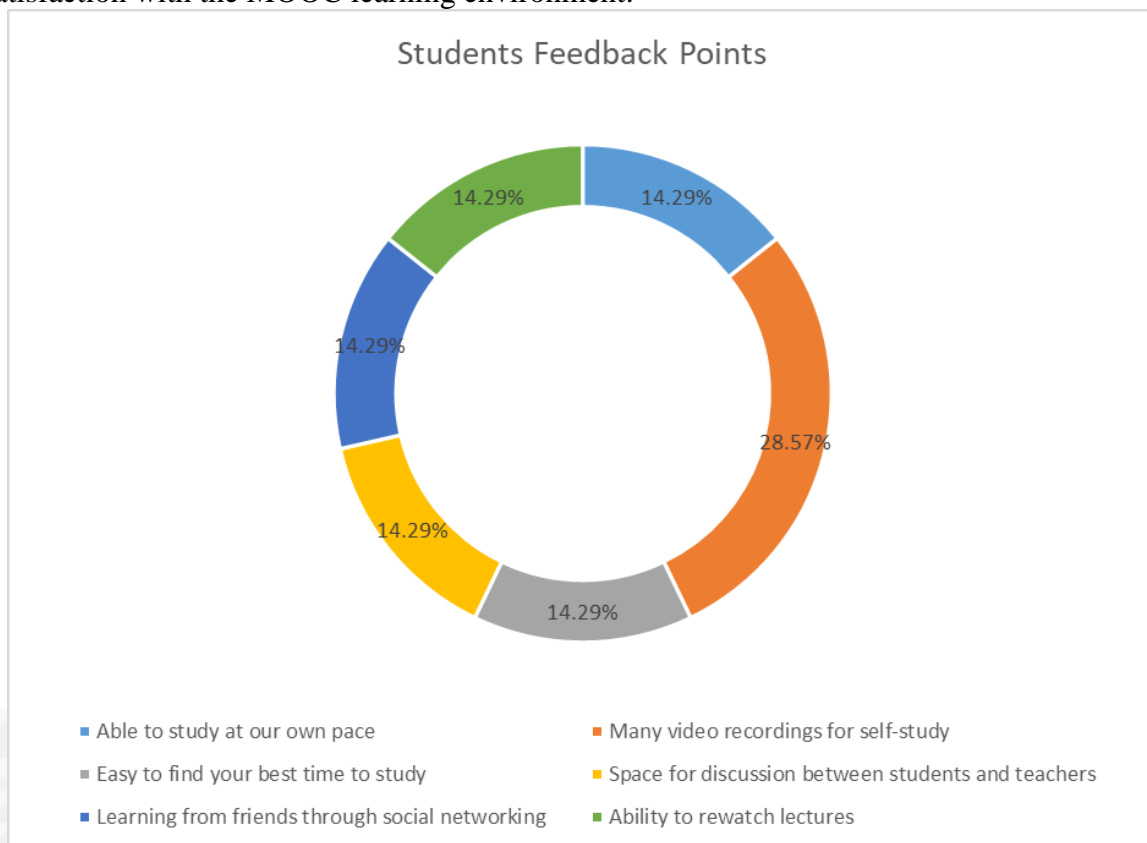


Figure 1. Student Feedback on MOOC Experience

The pie chart illustrates the distribution of student feedback on their MOOC experience in the Fluid Power Technology class. Among the feedback points, the largest slice represents "Many

video recordings for self-study" with 28.57% of mentions, indicating that a significant proportion of students highly valued the availability of video recordings. This feature allowed them to engage in self-study and review course materials at their own pace.

The remaining feedback points, including "Able to study at our own pace," "Easy to find your best time to study," "Space for discussion between students and teachers," "Learning from friends through social networking," and "Ability to rewatch lectures," each received 14.29% of mentions. While mentioned slightly less frequently, these aspects were also positively acknowledged by the students.

One noteworthy benefit mentioned by the students is the ability to study at their own pace (14.29%). This flexibility enables students to tailor their learning experience according to their individual needs and preferences. Additionally, the availability of numerous video recordings for self-study (14.29%) allows students to revisit lectures and reinforce their understanding of the course material.

Moreover, the students appreciated the convenience of choosing their own study time (14.29%), which allows them to optimize their learning schedule and engage with the course content when they are most focused and productive. Additionally, the MOOC platform's capacity for discussion between students and teachers (14.29%) provides a valuable space for interaction and idea exchange. This feature is particularly beneficial for introverted students who may feel more comfortable expressing their thoughts and opinions in an online environment.

Another notable advantage highlighted by the students is the opportunity to learn from their peers through social networking sites (14.29%). This aspect fosters a collaborative learning environment where students can share knowledge, discuss concepts, and support each other's learning journey. Additionally, the ability to rewatch lectures until understand the chapter (14.29%) serves as a valuable resource for students who require additional review and reinforcement.

The feedback received from the students provides valuable insights into their perception of the MOOC experience in the Fluid Power Technology class. Overall, the students expressed positive opinions about the use of MOOC, highlighting several advantages and areas for improvement. Table 1 summarizes the recommendations and key points that require improvement in the MOOC learning experience.

Table 1. Recommendations and Improvements

Recommendation	Improvement
Smooth website access	Enhance website accessibility
Develop a dedicated app	Create a mobile application for easy MOOC access
Ensure fast internet connectivity	Improve internet speed and stability for seamless access
Edit videos to reduce length	Optimize video editing techniques to shorten instructional videos
Improve server response time	Enhance server performance for faster loading and responsiveness
Add more lesson videos, e.g., problem-solving	Expand video content to include problem-solving scenarios

From the table, the students mentioned several areas that can enhance their MOOC experience. Firstly, ensuring smooth website accessibility is crucial to minimize technical difficulties and ensure a seamless learning experience. Developing a dedicated app can further facilitate student access to the MOOC platform, enabling them to engage with the course content on various devices.

Moreover, fast and reliable internet connectivity is essential for uninterrupted access to MOOC materials. Improving video editing techniques to reduce the length of instructional videos can enhance the efficiency of content delivery and cater to students' attention spans. Additionally, optimizing server response time is necessary to ensure quick loading and responsiveness of the MOOC platform, enhancing the overall user experience.

Finally, expanding the range of lesson videos to include problem-solving scenarios can enrich the learning experience, providing students with practical applications of the course concepts and enhancing their problem-solving skills.

CONCLUSION

In conclusion, the students' feedback on their perception of the MOOC experience in the Fluid Power Technology class provides valuable insights into the effectiveness and satisfaction

associated with this teaching method. The advantages of studying at their own pace, accessing video recordings, and choosing study times were highlighted. Furthermore, the opportunities for discussion and learning from peers through social networking sites were appreciated, as well as the ability to rewatch lectures for better comprehension.

To improve the MOOC experience, it is recommended to focus on enhancing website accessibility, developing a dedicated app for easier access, ensuring reliable internet connectivity, optimizing video length, improving server response time, and expanding the lesson videos to include problem-solving scenarios.

These findings contribute to the scientific understanding of student perceptions of MOOCs and can inform educational institutions and instructors about the benefits and areas for improvement in utilizing MOOCs for teaching and learning Fluid Power Technology. By implementing the recommended improvements, educators can enhance the effectiveness and overall satisfaction of students engaging with MOOCs in similar educational contexts.

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