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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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- |     |   |     |
|-----|---|-----|
| 71. | <p><b>HASSLE FREE BS2TAX</b><br/><i>Nurul Nabila binti Mohd Kisti, Siti Nuremilia binti Abdullah, Zulaikha binti Mohd Zulfiqri, Nurul Iffah Khadiijah binti Irwan, Assoc Prof. Dr Maheran Katan</i></p> | 477 |
| 72. | <p><b>I-FRAS AN INTELIGENT FACE RECOGNITION ATTENDANCE SYSTEM</b><br/><i>Kirijashini A/P Sundaramurthy, Kabilasha S. Kanesan, Sajinithiya A/P Velu, Tan Rhu Choon</i></p>                               | 483 |
| 73. | <p><b>HOKENBOT: TRANSFORMING APPROACHES WITH CUTTING-EDGE INSURANCE APP</b><br/><i>Geetha Muthusamy, Nur Sarah binti Md Rashid, Nurul Hafiza binti Abdul Hapidz , Nur Qurratu' Aini binti Harun</i></p> | 489 |
| 74. | <p><b>e-zy.graph: APLIKASI MEMPLOT GRAF GARIS LURUS</b><br/><i>Jannatul Ar Rayan binti Mohd Azmi, Mohd Hafiz bin Mohd Yosop, Nor Fatimah Az-Zahra binti Othman @ Ismail, Heiryah binti Othman</i></p>   | 495 |
| 75. | <p><b>EMPOWERING STUDENTS THROUGH VIDEO-BASED TEACHING: UNLEASHING THE ADVANTAGES OF ENGAGING EDUCATIONAL CONTENT</b><br/><i>Nurul Amira Azmi, Nurfaznim Shuib, Phaveena Primsuwan</i></p>              | 501 |
| 76. | <p><b>MONEY-WISE PLANNER</b><br/><i>Nur Syasya Qistina binti Suhari, Nini Suraya binti Mohd Zainudin, Alessa Syahira binti Norazman, Nur Izzah binti Shahroni, Nurul Azrin Ariffin</i></p>              | 507 |
| 77. | <p><b>FS: FRACTION SOLUTION</b><br/><i>Leong Siow Hoo, Voon Li Li, Nor Hazizah Julaihi</i></p>  | 513 |
| 78. | <p><b>THE PEDAGOGY APPROACH FOR ENHANCING CREATIVITY AND INNOVATION IN THE PRODUCT DESIGN PROCESS: A CASE STUDY APPROACH</b><br/><i>Shaira Ismail, Nurul Hayani Abd Rahman, Nani Ilyana Shafie</i></p>  | 517 |
| 79. | <p><b>A GRAPHICAL USER INTERFACE TO APPROXIMATE AREA (AMOEBA) USING TRAPEZOIDAL METHOD FOR TEACHING AND LEARNING PROCESSES</b></p>  | 525 |

## **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**

## **EMPOWERING STUDENTS THROUGH VIDEO-BASED TEACHING: UNLEASHING THE ADVANTAGES OF ENGAGING EDUCATIONAL CONTENT**

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### **ABSTRACT**

This article critically examines the limitations of conventional teaching methods, including issues of student disengagement and limited knowledge retention. In light of these challenges, there is a growing recognition of the need to explore innovative approaches that can significantly enhance learning outcomes. The primary aim of this study is to showcase the transformative potential of video-based teaching as a solution to these pedagogical concerns. Particularly, we introduce a novel dimension to video-based teaching by incorporating interactive pop quizzes through the utilization of Padlet, which fosters active student engagement and offers immediate feedback. Furthermore, this article investigates the broader societal benefits that video-based teaching can provide. By democratizing education, this approach effectively increases accessibility and bridges the learning divide among diverse student populations. Additionally, researchers scrutinize the commercial potential associated with video-based teaching, shedding light on the prospects for educational technology development and growth within the market. The study also highlights the pivotal role of video-based teaching in enhancing teacher-student dynamics. By fostering stronger relationships and enabling personalized instruction, this methodology creates an optimal learning environment. Consequently, it empowers learners to cultivate self-directed and continuous educational journeys, effectively preparing them to meet the evolving demands of the future. Moreover, the integration of multimedia elements within video-based teaching serves as a catalyst for multidimensional learning experiences. By catering to diverse learning styles and stimulating cognitive processes, this approach effectively enriches the educational encounter. In conclusion, this study underscores the substantial potential of video-based teaching to revolutionize education by addressing various pedagogical challenges, bridging knowledge gaps, and unlocking avenues for commercial growth. By embracing this innovative approach, educators, policymakers, and entrepreneurs can play a significant role in transforming the educational landscape, resulting in

improved student engagement, enhanced learning outcomes, and a thriving market for educational technology.

**Keywords:** video-based teaching, Padlet, student engagement, interactive pop quizzes, educational technology

## INTRODUCTION

In the realm of education, conventional teaching methods have long faced limitations that hinder student engagement and impede knowledge retention (Picciano et al., 2021). Recognizing these challenges, there is a growing call to explore innovative approaches that can significantly enhance learning outcomes and transform the educational experience (Mayer, 2014). This study aims to shed light on the transformative potential of video-based teaching as a solution to these pedagogical concerns, specifically focusing on the incorporation of interactive pop quizzes through the utilization of Padlet.

Video-based teaching has emerged as a powerful tool that can revolutionize education by leveraging the advantages of multimedia content and technology (Clark & Mayer, 2016). It offers an engaging and dynamic learning experience that captures students' attention and enhances their understanding of complex concepts. By integrating interactive pop quizzes into video-based teaching, students are actively engaged in the learning process and provided with immediate feedback, which promotes deeper comprehension and knowledge retention (Mayer, 2014).

Moreover, this study explores the broader societal benefits of video-based teaching. By leveraging technology and digital platforms like Padlet, video-based teaching can democratize education and bridge the learning divide among diverse student populations (Dichev & Dicheva, 2017; Khan, 2019). Access to quality educational content becomes more accessible, leveling the playing field and empowering students from different backgrounds to thrive academically.

The commercial potential associated with video-based teaching is also a significant aspect of this study. As educational technology continues to evolve, there are considerable prospects for growth and development within the market. Entrepreneurs and policymakers can benefit from understanding the market dynamics and opportunities for investment in educational technology initiatives that support video-based teaching (Baepler et al., 2018).

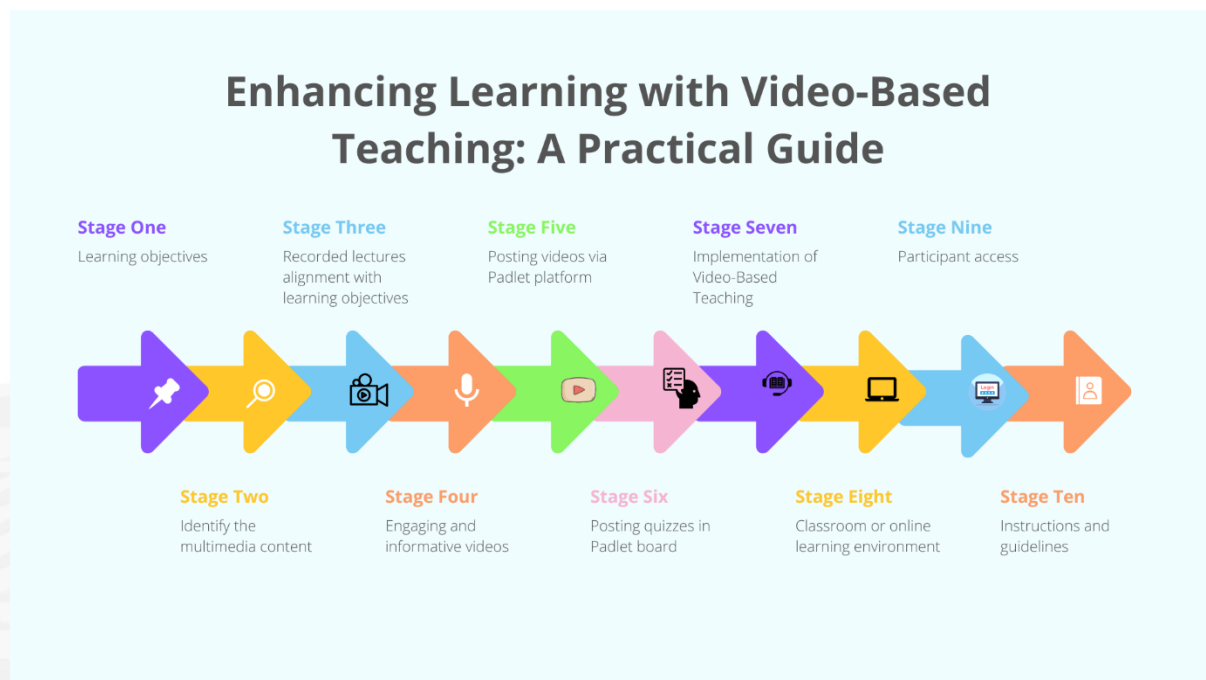
Furthermore, this study emphasizes the pivotal role of video-based teaching in enhancing teacher-student dynamics. By fostering stronger relationships and enabling personalized instruction, this methodology creates an optimal learning environment. Teachers can adapt their teaching strategies to cater to individual student needs, promoting a sense of belonging and empowerment among learners (Freeman et al., 2017; Tomlinson, 2022).

The integration of multimedia elements within video-based teaching serves as a catalyst for multidimensional learning experiences. By catering to diverse learning styles and stimulating cognitive processes, this approach effectively enriches the educational encounter and promotes deeper understanding (Mayer, 2014; Sweller et al., 2011).

In conclusion, this study highlights the substantial potential of video-based teaching to revolutionize education by addressing pedagogical challenges, bridging knowledge gaps, and unlocking avenues for commercial growth. By embracing this innovative approach, educators, policymakers, and entrepreneurs can play a significant role in transforming the educational landscape. Improved student engagement, enhanced learning outcomes, and a thriving market for educational technology can be achieved, ultimately empowering students and equipping them with the skills needed to thrive in the evolving demands of the future.

## MATERIALS AND METHODS

This section aims to provide a comprehensive understanding of the procedures undertaken to ensure a robust and reliable investigation of the impact of video-based teaching on student learning outcomes and engagement. The following figure, Figure 1, depicts the ten stages involved in the development of the teaching materials, the integration of pop quizzes, the utilization of the Padlet platform, and the implementation of the video-based teaching approach. The step-by-step illustration provides a comprehensive overview of the procedures undertaken in this study.



**Figure 1.** Enhancing Learning with Video-Based Teaching: A Practical Guide

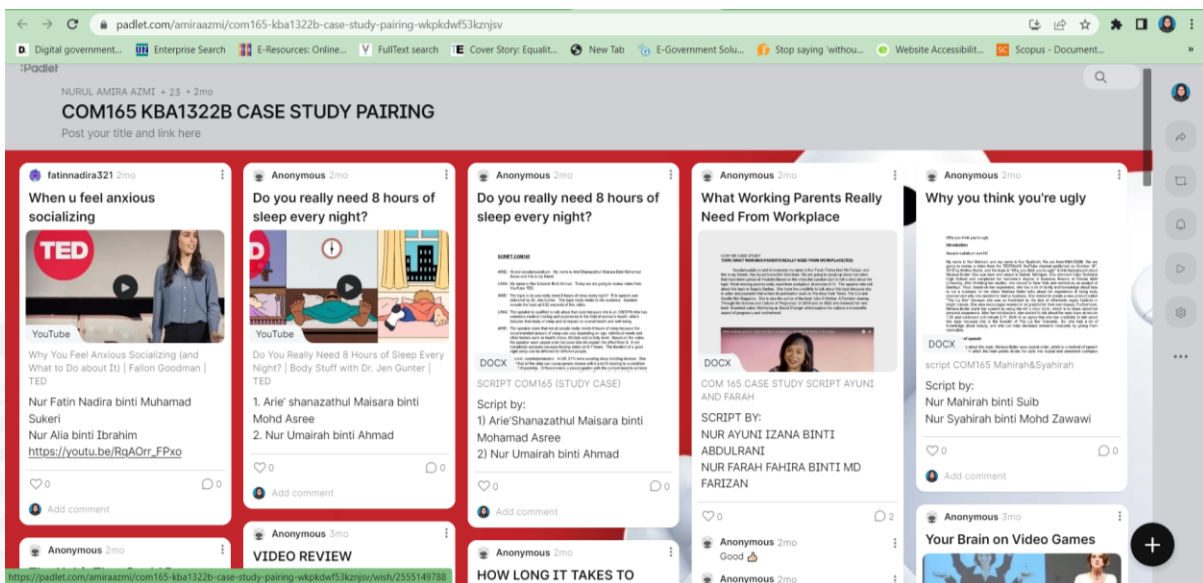
The study employed a systematic approach to develop video-based teaching materials aligned with the participants' learning objectives and curriculum. These materials included recorded lectures, instructional videos, and demonstrations, designed to be engaging and informative.

The video-based teaching approach was implemented in both traditional classroom settings and online learning environments. Participants received clear instructions and guidelines on how to effectively engage with the materials and complete the assessments.

To assess participants' understanding and retention of the content, pop quizzes were integrated into the video-based teaching materials.

The Padlet platform was chosen as the hosting platform for the video-based teaching materials and pop quizzes. Padlet offered a user-friendly virtual bulletin board where researchers created dedicated boards for each video lesson. Participants accessed the materials and quizzes through Padlet, which supported the inclusion of diverse content types, including text, images, videos, links, and documents.

By employing these materials and methods, the study aimed to investigate the impact of video-based teaching with integrated pop quizzes on student learning outcomes and engagement. The rigorous development process, the inclusion of quizzes, the utilization of Padlet, and implementation in diverse learning environments contribute to the robustness of the study's methodology.





**Figure 2.** Sample of the students' engagement via Padlet

## DISCUSSION AND CONCLUSION

The findings of this study provide valuable insights into the transformative potential of video-based teaching with integrated pop quizzes using the Padlet platform. The systematic development of engaging teaching materials, the incorporation of interactive quizzes, and the utilization of technology have demonstrated positive outcomes in terms of student engagement and learning outcomes. The following discussion highlights the key implications of the study's findings and offers directions for future research in this area.

Firstly, the integration of interactive pop quizzes within video-based teaching has proven to be an effective strategy for promoting active student engagement and enhancing comprehension. The immediate feedback provided through the quizzes enables students to identify their strengths and weaknesses, allowing for targeted learning and addressing misconceptions. Future research could further explore the optimal frequency and timing of pop quizzes to maximize their impact on learning outcomes.

Secondly, the use of the Padlet platform as a hosting platform for video-based teaching materials offers a user-friendly and versatile interface that facilitates easy access and interaction. However, further investigation is warranted to assess the platform's usability and effectiveness across different educational contexts and student populations. Comparative studies could be conducted to explore the benefits of different digital platforms in delivering video-based teaching and assessing their impact on student engagement and learning outcomes.

Additionally, the role of the teacher in video-based teaching deserves further exploration. While video-based teaching offers the advantage of personalized instruction and the ability to adapt to individual student needs, it is essential to understand how teachers can effectively support students' learning through online interactions and feedback. Future research could delve into the strategies and best practices for teachers to facilitate meaningful engagement and foster a supportive learning environment in video-based teaching settings.

Furthermore, this study highlights the broader societal benefits of video-based teaching in terms of democratizing education and bridging the learning divide among diverse student populations. Future research could delve into the specific challenges and opportunities associated with implementing video-based teaching in underserved communities and explore strategies to ensure equitable access and support for all learners.

In conclusion, this study underscores the transformative potential of video-based teaching with integrated pop quizzes, emphasizing its positive impact on student engagement and learning outcomes. By leveraging multimedia content, technology, and interactive assessment, video-based teaching offers an innovative approach to enhancing the educational experience. The findings of this study contribute to the growing body of knowledge in this field and provide a foundation for future research to delve deeper into specific aspects of video-based teachings,

such as the optimal design of teaching materials, the effectiveness of different assessment strategies, the role of technology platforms, and the teacher-student dynamics in online learning environments.

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