The Use of TikTok to Enhance Student Participation in Computer Applications Class

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Article Info	ABSTRACT
  	TikTok is one of the social media platforms that is currently gaining popularity among youngsters, especially Gen Z. Despite its negative reputation, TikTok can still be beneficial if properly used, including for teaching and learning purposes. In this article, we present our experience in conducting action research to solve a problem regarding the lack of student participation during online classes. We mainly use TikTok as the medium of intervention. This action research was triggered as we observed that our students have a low level of participation and sometimes there was no response during online class sessions. Taking the Computer Applications course as the subject, this study was participated by 28 foundation students at Universiti Utara Malaysia. Furthermore, based on the concurrent mixed-method approach, the study has been conducted in three cycles, following the Action Research Model by Kemmis and McTaggart (1988). Each cycle involved the data collection in three modes: survey, observations and researchers' reflection. At the end of the cycle, the decision was made to draw suggestions for improvement in the next cycle. After three intervention cycles, we found that TikTok could improve students' participation and their performance in the Computer Applications course. Most of the respondents also preferred this innovative method for a better online learning experience. In conclusion, we strongly believed that TikTok could be an educator's valuable new tool to enhance the teaching and learning process if used for practical purposes. .

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INTRODUCTION

The rise of the COVID-19 pandemic has forced learning institutions to conduct their classroom virtually. This is to help contain the virus's transmission while also ensuring that the learning process does not fall short. One of the many challenges of online learning is the lack of engagement among the students. The situation is worst for students in developing countries, where the resources are limited (Abou-Khalil et al., 2021). To enhance student engagement, educators have explored various tools to make online learning interesting, such as through the integration of social media. In this regard, existing studies have shown the effective use of social media in education (Greenhow et al., 2019; Haşiloğlu et al., 2020) using various platforms, including Facebook, Twitter and more recently, TikTok. We explore the possible benefits of TikTok in education due to its unprecedented popularity among youngsters today.

TikTok in the classroom doesn't have to be an outlawed distraction when it can be a valuable tool for reaching and engaging students at a deeper and more meaningful level. The music video-making social media app is free to use, accessible to students, and has the potential to be a profoundly creative teaching tool. While the open-to-the-internet social networking part of TikTok needs to be kept under check, the video production portion of the program is quite beneficial. Using TikTok to create a teacher account may be a fun method to engage, reward, and entertain students both inside and outside the classroom. It's also a terrific method for educators to build a network and share tips, techniques, and hacks with one another.

TikTok is being used by educators to create digital coursework. This is a great tool for classroom use, but it is even better for remote learning and home tasks. These videos can be made by individuals or as part of a group project. The goal is to encourage students to utilize the app to complete an assignment, which will engage them on a platform they can connect to, motivate them to comprehend topics and work in groups, and aid peer-to-peer teaching.

TikTok lesson plans are popular now as a way to help students engage in and beyond the classroom. For example, students can create 15-second video clips that succinctly summarize key points learned on a topic. This helps students to condense and simplify their thoughts, making the lesson easy to remember. But since these videos can be shared, it also means other students can learn from their videos. When going over a subject, before setting the task of creating these videos, it can be helpful to play some other available examples created by students using TikTok.

Through this action research, we use the TikTok application to encourage student participation in class. Prior to this, as online educators, we experienced a lack of participation during teaching and learning in the class. Furthermore, given TikTok's growing popularity among young people (Su et al., 2020) and the unique traits that set it apart from other social media platforms, we explored the effect of using TikTok as an education tool to increase student engagement in online classes. The goal of this research is to produce a quantitative and qualitative estimation of the phenomena. To achieve a better understanding of this action research project, we pose two questions:

RQ1: Does the incorporation of the TikTok platform increases students' participation in class?

RQ2: Does the incorporation of the TikTok platform enhances students' learning process?

LITERATURE REVIEW

Social media has become a significant entertainment tool in the life of today's younger generation. Academic institutions and faculty have taken the opportunity to use this platform for exploring its potential added value in education (Van Den Beemt et al., 2020). Regardless of whether schools incorporate social media into education, the platforms' pervasiveness is already affecting how students interact, collaborate, and learn (Escamilla-Fajardo et al., 2021; Tess, 2013). The increasingly popular social media platform, TikTok has made its way into the education system due to its massive global outreach. In late 2019, this platform had 1.5 billion global downloads, which was the third most downloaded app in that year, surpassing Facebook and Instagram. It is also one of the top ten most downloaded applications in the globe over the last decade, and it is primarily

utilized by a younger audience. In the United States alone, 46% of users are 18-24 years old, and it is assumed that many users are considerably younger (Hayes et al., 2020).

Hsin and Cigas (2013) found that using video minilectures enhances students' learning experience and satisfaction. Escamilla-Fajardo et al. (2021) explored TikTok as a pedagogical tool in sports science due to its adaptive nature of the subject's expressive and creative content through music and movement, which are vital for achieving the objectives and contents of the corporal expression course. In the medical field, Comp et al. (2021) described TikTok as an effective platform to disseminate public health information during the COVID-19 pandemic. The hashtag "MedEd" has over 4.6 million views on TikTok as of August 2, 2020, which discusses various contents from anatomy lessons to demonstrating lifesaving procedures.

Khlaif and Salha (2021) considered the TikTok platform to be aligned with newly evolved educational strategies in e-learning, known as nano-learning. The nano-learning principle is often viewed with the micro-learning principle whereby the former is a condensed version of the latter. In order to acquire sustained attention and thorough comprehension, the micro-learning units are broken into sub-units, with a constant focus on longer units (Khlaif & Salha, 2021). Such approach provides better alternatives for educators attempting to integrate advanced technologies into instructional design.

METHODOLOGY

This study was done using a concurrent mixed-method approach, where both types of data, qualitative and quantitative are collected together to achieve the specific objectives (Creswell, 2014). Triggered by the undesired scene during the online learning mode, we conducted this study after observing the passive behaviors of AI0023 – Introduction to Computer Applications students. The course was taken by 28 foundation students at Universiti Utara Malaysia (UUM). Through the initial data collection, which was done using the observation technique, it was discovered that the students were very inactive in class. In particular, they were hardly responding to the instructor's questions and the level of engagement among them was very low. Through our literature review and observation of youngsters' present trends, we decided to use a type of social media; TikTok which is popular among youngsters, especially at the young ages of our students. Thus, with proper implementation, it should be able to attract the students to participate, make learning activities more engaging, and finally lead to the achievement of the targeted Course Learning Outcome (CLO).

ANALYSES AND FINDINGS

To examine the effectiveness of TikTok in promoting students' participation and engagement in an online class, the Action Research Model (Kemmis & McTaggart, 1988) was used as an implementation guideline, as shown in Figure 1. The interventions were done in three cycles to ensure maximum effectiveness could be obtained. In each cycle, three methods of data collection were implemented to assess the effectiveness of TikTok for online learning engagement and participation. These methods were online survey, observation, and researchers' reflection.

Figure 1: Action Research Model by Kemmis and McTaggart (1988)

Cycle 1: TikTok-Based Video Presentation

The preliminary survey that was conducted on March 3rd, 2022, has revealed that most of our students (n=20, 100%) have a TikTok account, in line with our initial prediction. The survey that was participated by 20 respondents also yielded an interesting finding; the majority of them (n=18, 90%) enjoyed expressing themselves on TikTok during the online class, as shown in Figure 2.
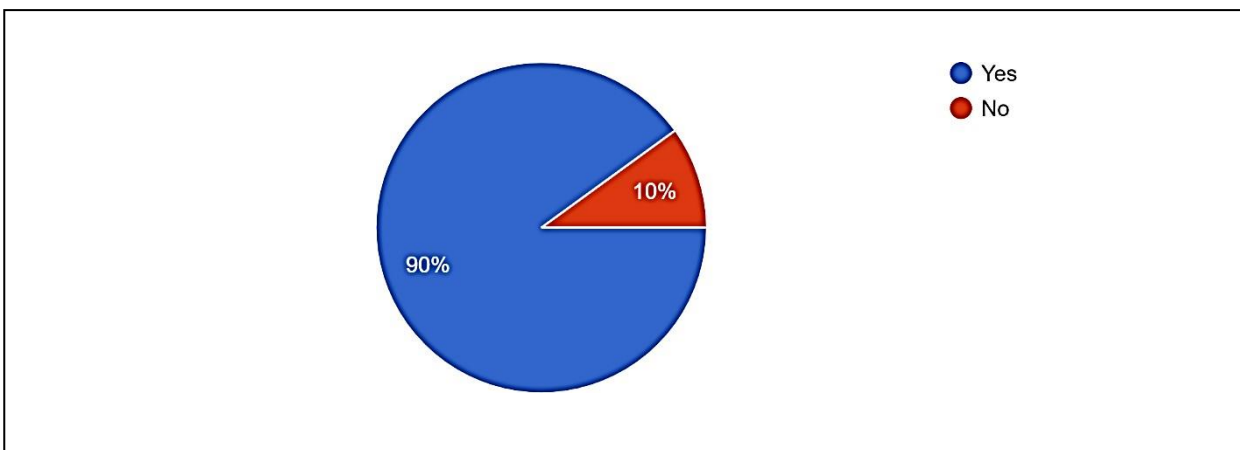
Figure 2: Enjoyed Expressions of Using TikTok During the Online Class

In the first cycle of our action research, our aim is to look at the acceptance of this technique by our students, and whether or not it improves their engagement during online classes. We chose the topic of "Presentation Tools" where the student we asked to create a revision video on the TikTok platform and presented it during the next class. Figure 3 shows the TikTok video created by students.

Figure 3: Sharing TikTok Videos to Improve Students' Participation (Intervention)

During the session, we gathered the data through observation. Table 1 presents the finding of our observation during the first cycle.

Table 1: Observations for Cycle 1

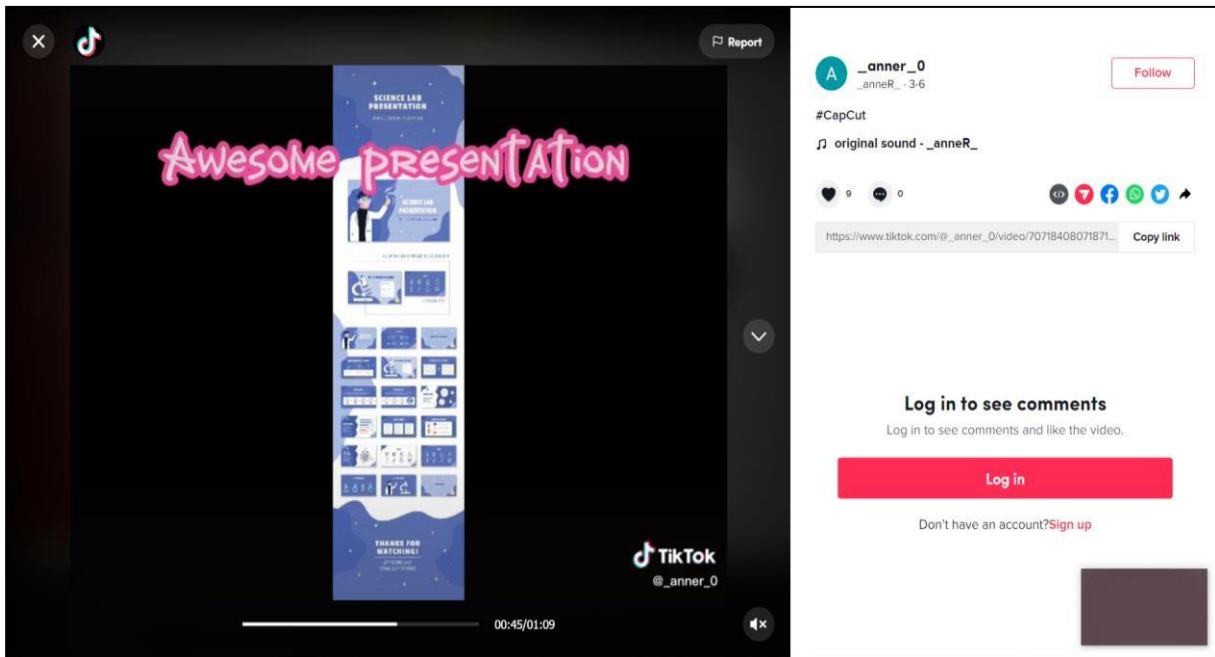| No	Student Behaviors	Observations
1	All students submit the video.	No, only 20 out of 28 (71.4%) students submitted.
2	The videos indicate that they are happy with the task.	Looks like the majority of them are happy with the task, judging from the quality of their work.
3	Other students ask/comment during the presentation.	Not on a voluntary basis.
4	More engagement than conventional teaching and learning.	Better.

Next, after the session, we distributed an online questionnaire to obtain their responses on the way how to improve TikTok integration in online learning. As a result, four major themes have been extracted from their responses using the qualitative thematic analysis. Although the students seem to enjoy the use of TikTok, they also believed the interesting content that is trendy and related to the topic, along with feedback from their classmates could improve their participation in online learning. This is evidenced through the two main themes as illustrated in Figure 4.

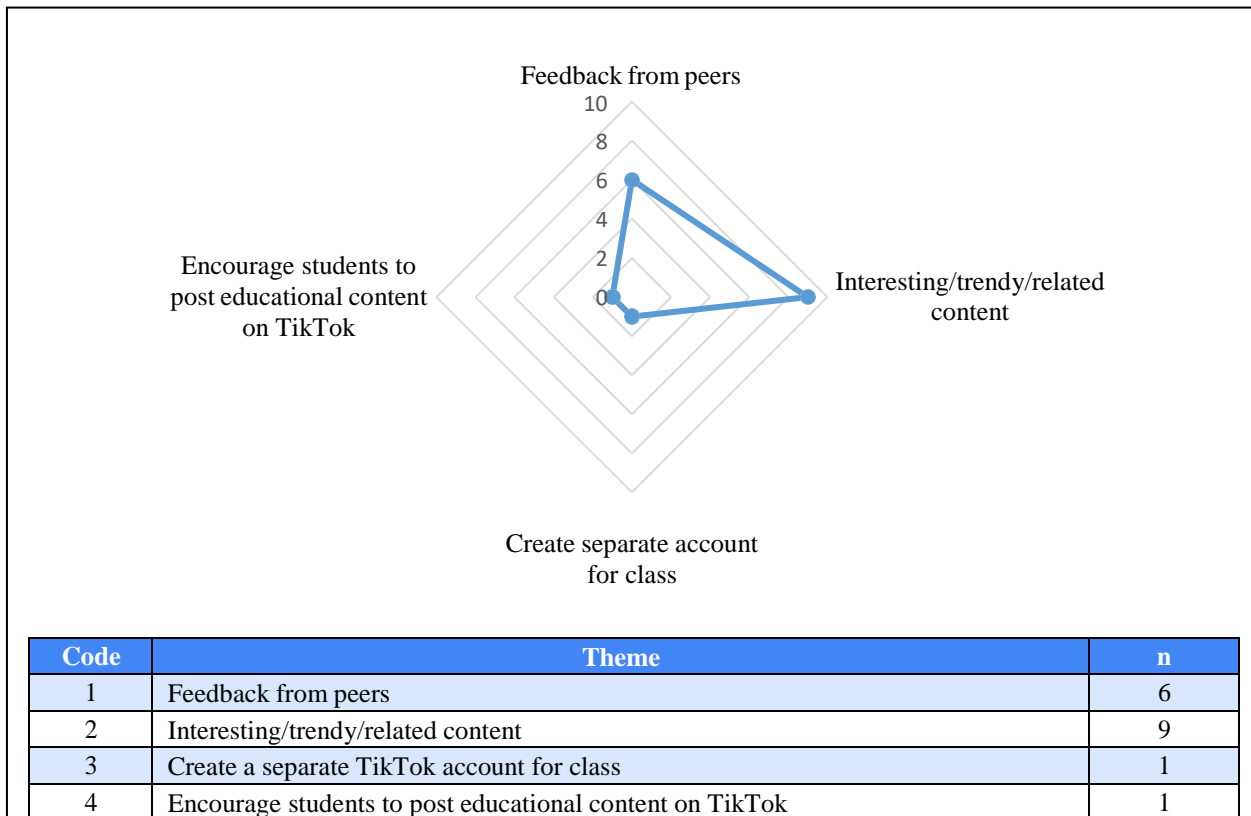| Code	Theme	n
1	Feedback from peers	6
2	Interesting/trendy/related content	9
3	Create a separate TikTok account for class	1
4	Encourage students to post educational content on TikTok	1

Figure 4: Strategies to Use TikTok for Online Learning

Finally, to triangulate the observation and survey findings, we used the third method, which is widely applied in educational action research; researchers' reflection (Duffy, 1987; Fong Peng & Chew, 2015; Hartley & Sturm, 1997). Based on the reflections on the TikTok videos provided by the students, we found that the students did not respond to their classmates' videos. This indicates that there is no two-way communication (between the students who produced the TikTok video and classmates). Therefore, to further encourage student communication and participation in the classroom, we suggest that every student should review and respond to the videos provided by their peers. With the review and comments, student participation in the class is more effective because all students respond to each other's works.

In sum, the intervention plan in cycle 1 has shown some positive improvement in terms of students' participation and engagement during the online class, at least compared to the traditional method that we used to execute. Nonetheless, based on our observation and the students' feedback, we found that the participation is still half-duplex in nature, and the communication happened in one direction. Hence, in the next cycle, our strategy was to integrate TikTok with peer evaluation.

Cycle 2: TikTok with Peer Evaluation

In cycle 2, we used TikTok for our flipped classroom strategy. The students were asked to read and present their understanding of the topic of Database Management System (DBMS). The submitted videos were presented as a part of the induction set before teaching content was delivered by the instructor. Figure 5 shows the TikTok video presented by students.

Figure 5: TikTok Videos + Peer Evaluation (Intervention)

The observation was done to evaluate their engagement during the presentation, as shown in Table 2.

Table 2: Observations for Cycle 2

No	Aspects	Observations
1	All students submit the video.	No, only 18 out of 28 (64.3%) submitted.
2	The videos indicate that they are happy with the task.	Yes, based on their reactions to the instructor's questions.
3	Other students ask/comment during the presentation.	Yes.
4	More engagements than the previous cycle.	Yes.
5	Weakness	Cannot evaluate the extent of student understanding of the topic.

Next, we distributed the second set of online questionnaires to measure their perception of our enhanced intervention. Twenty respondents answered the questionnaire, which showed an improvement in terms of their experience and participation during online classes. Table 3 summarizes the descriptive statistic of their responses. In general, the students suggested that our intervention in cycle 2 is good to improve their class participation but it was lacking in the aspect of enhancing the comprehension of course content.

Table 3: Respondents' Responses on The Enhanced Intervention in Cycle 2

No.	Question	Yes		No		Maybe		Most Probably No		
		n	%	n	%	n	%	n		%
1	Are you convenient when your friends comment or ask questions regarding your TikTok content?	15	75	5	12	0	0	0		0
2	Do you think that you engage more with the class when your TikTok content is reviewed/commented by your friends?	16	80	4	20	0	0	0		0

| 3 | Do you think TikTok + peer review helps you to understand the topic that you learned in class? | 1 | 5 | 6 | 30 | 4 | 20 | 9 | 45 |

Cycle 2 was wrapped up with the last method of data collection to evaluate our intervention which is the researchers' reflection. Cycle 2 required students to present the topic provided through TikTok videos before the instructor started the lesson. Based on the findings in cycle 1, we have added peer review to the TikTok videos produced by their classmates to improve their communication and participation in class. When cycle 2 was conducted, although there was an increase in participation in the class, there were also students who were less confident to give more critical comments to their classmates. For example, students will comment on "very good", "very interesting" or "very creative" only. In addition, we also found that some students produced less satisfactory TikTok videos and caused other classmates to have less understanding of the topics discussed. Some students put less effort into producing this TikTok video because it was not given any marks. So, to increase students' efforts to produce better quality TikTok videos and also to encourage students to provide more thoughtful comments or opinions, we suggest that this task be changed as an assessment and given marks. This was done in Cycle 3 by integrating TikTok with Web 2.0 tools, in this case, we used Mentimeter.

Cycle 3: TikTok with Web 2.0 Tools

Our last cycle in this action research aimed at combining the power of TikTok and Web 2.0. We wanted to see how this combination could be used to improve student participation, while at the same time helping them to understand the teaching content. More importantly, these aspects should be measurable. In cycle 3, we assigned students to create TikTok content on the topic of Multimedia. They were required to summarize their understanding of that day's lesson, and the videos were presented at the end of the class. This is shown in Figure 6.
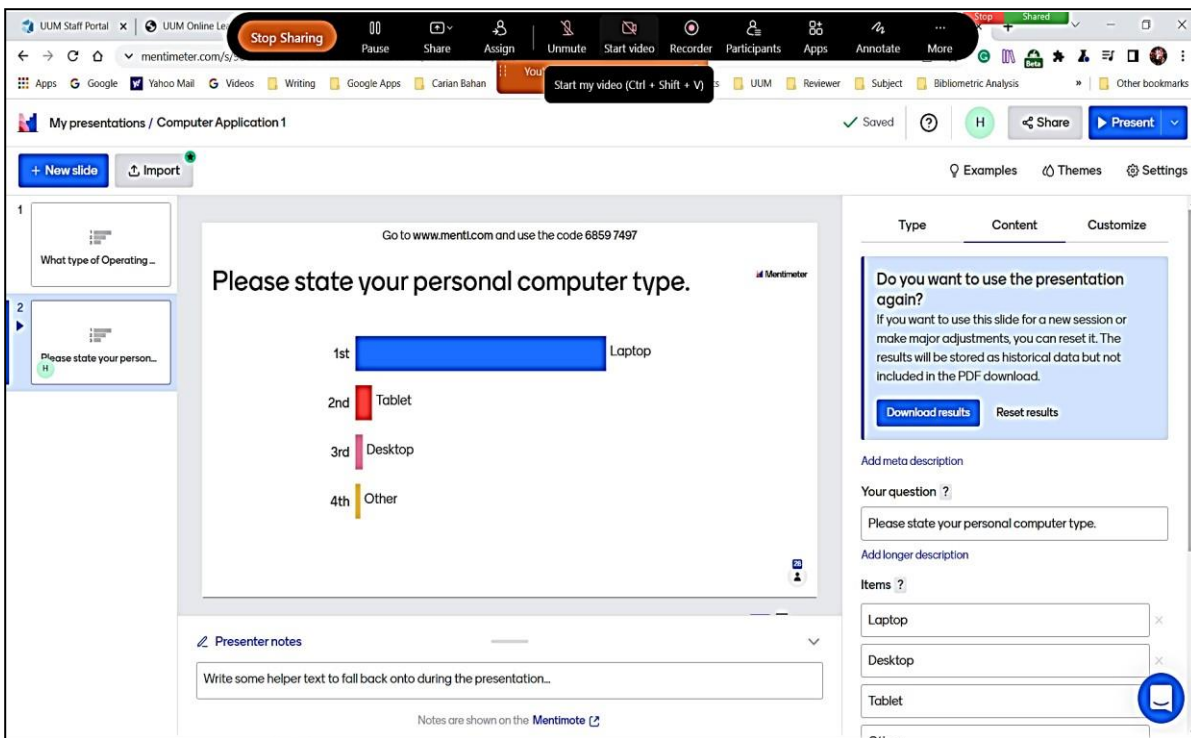

Figure 6.: TikTok Videos + Mentimeter for Assessment (Intervention)

As in the previous cycles, we did the observation throughout the learning session. The finding is presented in Table 4.

Table 4: Observations for Cycle 3

No	Student Behaviors	Observations
1	All students submit the video.	Yes.
2	The videos indicate that they are happy with the task.	Looks like the majority of them are happy with the task, judging from the quality of their works and their responses.
3	Other students ask/comment during the presentation.	Most of them participate in the discussion.
4	Do they understand the lesson content?	The majority of them understand. The quiz was done using Mentimeter, and 25 out of 28 answered the questions correctly.

Next, we also conducted the third online survey to see any changes in student perceptions regarding our newly enhanced intervention. This time, all of the students (n=28, 100%) participated in the survey, which was a good sign for us. Table 5 summarized the finding of the survey. It is quite surprising for us that all of the students provide positive feedback on our intervention in cycle 3. Hence, at this stage, our initial conclusion of this action research was a success. But was it for real? We confirmed it through our researchers' reflection.

Table 5: Respondents' Responses on The Enhanced Intervention in Cycle 3

No.	Question	Yes		No	
		n	%	n	%
1	Do you enjoy using TikTok in your teaching and learning activities?	28	100	0	0
2	Do you think that Web 2.0 tools like Quizlet and Kahoot! could be used together with TikTok to enhance the effectiveness of online learning?	28	100	0	0
3	Do you think that the use of TikTok and Web 2.0 should be continuously used to improve students' engagement in class?	28	100	0	0

Apart from the quantitative data, we also gathered qualitative responses through an open-ended question. The gathered responses are in line with the quantitative finding that proved their satisfaction with our intervention. This can be seen from the text analysis of their responses, as shown in Figure 7.

Figure 7: Text Analysis of Students' Experience of the Invention in Cycle 3

The last assessment of our cycle 3 was the researchers' reflection. When we made the task to be a part of the assessments, we found that the quality of the TikTok videos improve significantly. However, we still need to know whether this learning method is effective for the students. Thus, we decided to have a short quiz at the end of the class to test the students' understanding using a Web 2.0 tool platform, Mentimeter. Based on the quiz result, more than half of the students managed to get full marks. We conclude that our intervention is appropriate for learning and has successfully met the objective of this action research project. However, we are still looking for some ways to make the participation more engaging and fun, while stimulating their higher-order thinking skills (HOTS).

CONCLUSION

Because of the widespread use of social media, they can also be implemented in an academic setting easily. TikTok is a free mobile phone application that can be downloaded on both Android and iOS smartphones. Educators could assign students to make humorous TikTok videos as homework in order to enhance student engagement. While TikTok is primarily used by younger audiences and teenagers to create fun, visually engaging, creative, and often humorous online videos, we saw TikTok as an opportunity to create informative, entertaining, and visually attractive videos that could reach younger audiences and inspire them to learn about the computer applications. The primary purpose of this research is to assess the utilization of the TikTok application as an instructional aid for students studying the Computer Applications course. Overall, the results of this study show good responses, as the majority of respondents preferred this innovative method due to its novelty and intriguing qualities. As a result, educators may use this new and fascinating mobile phone

application to improve student engagement and boost interest in computer applications. Overall, it can be concluded that TikTok is a valuable new tool to enhance the teaching and learning process if used correctly.

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