Investigating Students' Cognitive Engagement Levels in the Implementation of TikTok in the Speaking Classroom

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Abstract

This study investigates students' level of cognitive engagement in the implementation of TikTok applications within the speaking class among second-semester accounting students at STIE BPD Semarang during the academic year 2023/2024. The purpose of the study is to explore how the integration of TikTok in the classroom environment influences students' cognitive engagement, aiming to provide insights into innovative teaching methods and their effectiveness in enhancing student learning experiences.

The methodology employed a questionnaire comprising 10 Likert scale items to assess students' cognitive engagement levels. Purposive sampling was utilized to select 20 participants, and data analysis included calculating mean and standard deviation for each item.

The results indicate a notable range in cognitive engagement levels, with scores ranging from 3.65 to 4.45 on the Likert scale, and an overall mean of 4.15 across all items. These findings suggest that integrating TikTok applications into the speaking class positively influences students' cognitive engagement. The relatively high mean score reflects a generally positive perception of the effectiveness of TikTok in enhancing engagement among students.

The implications of this study are significant for educators seeking to adopt innovative teaching methods to improve student engagement and learning outcomes. By understanding the impact of TikTok applications on cognitive engagement, educators can make informed decisions about integrating technology into their teaching practices. Furthermore, the study contributes to the growing body of research on the use of social media platforms in educational settings, providing valuable insights into the potential benefits of incorporating TikTok into the classroom environment.

INTRODUCTION

Cognitive engagement, defined as students' level of investment in learning, plays a pivotal role in their academic success and overall educational experience. Rooted in various theoretical frameworks, cognitive engagement encompasses a multifaceted approach to learning, encompassing students' active participation,

strategic thinking, and self-regulated learning behaviors. According to Fredricks et al. (2004), cognitive engagement involves students' thoughtful and purposeful approach to academic tasks, as well as their willingness to exert effort to comprehend complex ideas or master difficult skills. This definition emphasizes the cognitive processing that students apply during learning activities, highlighting the importance of deep engagement and active involvement in the learning process.

Furthermore, Veiga et al. (2014) emphasize high concentration, strategic thinking, sophisticated learning strategies, and self-regulation as key components of cognitive engagement. This perspective underscores the dynamic nature of cognitive engagement, where students actively regulate their learning behaviors and employ strategic approaches to optimize their learning outcomes. Moreover, Pintrich et al. (1991) identified dimensions of cognitive engagement, including elaboration, organization, critical thinking, and rehearsal, which reflect students' active engagement in learning tasks and their cognitive processing of academic content.

Additionally, Schaufeli et al. (2002) introduced absorption as an indicator of cognitive engagement, highlighting students' deep immersion and concentration in their studies. This dimension emphasizes the extent to which students become fully engrossed in their learning tasks, demonstrating a high level of absorption and concentration. Furthermore, Lee and Reeve (2012) emphasized the importance of sophisticated learning strategies, strategic learning behaviors, and continuous self-monitoring and evaluation in cognitive engagement.

While previous studies have contributed valuable insights into the relationship between technology integration and student engagement, there remains a notable research gap regarding the specific impact of emerging technologies, such as TikTok applications, on students' cognitive engagement in the classroom (Kearsley & Schneiderman, 1998; Dewi et al., 2023; Hazzam & Wilkins, 2023; Zilvinskis, 2017). Existing literature has predominantly focused on the influence of technology on student engagement and learning outcomes, few have specifically examined the cognitive aspects of engagement and the implications of using platforms like TikTok in educational settings. Most studies have relied on traditional instructional methods or general technology-based interventions, leaving a gap in understanding how specific technological tools can enhance students' cognitive engagement and learning experiences.

In light of these theoretical perspectives, this study aims to investigate students' cognitive engagement in the implementation of TikTok applications within the speaking class. By examining students' perceptions of cognitive engagement when using TikTok, this study seeks to contribute to our understanding of the effectiveness of integrating technology into the classroom environment to enhance student learning experiences. Through an exploration of cognitive engagement levels and their alignment with theoretical frameworks, this study aims to provide

insights into innovative teaching methods and their potential impact on student engagement and academic success. The research question guiding this study is: "How does the integration of TikTok applications in the speaking class influence students' level of cognitive engagement?"

RESEARCH METHOD

Participants

The participants of this study were 20 second-semester students enrolled in the accounting program at STIE BPD Semarang during the academic year 2023/2024. Purposive sampling was employed to select participants who had experience with TikTok and were willing to engage in the study.

Instrument

A questionnaire based on Miserandino and Veiga et al. was developed to assess students' level of cognitive engagement when using TikTok applications in the speaking class. The questionnaire consisted of 10 Likert scale items, ranging from 1 to 5, where 1 represented "strongly disagree" and 5 represented "strongly agree". The items were designed to measure various aspects of cognitive engagement, such as attention, interest, and critical thinking.

Procedure

Prior to data collection, ethical approval was obtained from the relevant institutional review board. Participants were briefed about the study objectives and provided informed consent before completing the questionnaire. The questionnaire was administered electronically to ensure anonymity and convenience for the participants

Data Analysis

Descriptive statistics, including mean and standard deviation, were calculated for each item on the questionnaire to assess students' cognitive engagement levels. Mean scores closer to 5 indicated higher levels of cognitive engagement, while standard deviation values indicated the variability of responses among participants. The data were then analyzed to identify patterns and trends in students' responses, providing insights into the impact of TikTok integration on cognitive engagement in the speaking class.

RESULT AND DISCUSSION

Based on the data collected using the cognitive engagement questionnaire, descriptive statistics of each item were conducted. The following table presents the

mean and standard deviation of cognitive engagement levels for each questionnaire item.

Table 1 Mean and Standard Deviation of Cognitive Engagement Levels for Each Questionnaire Item

Item no	Mean	Standard Deviation
1	4	0,561951487
2	4,2	0,767771896
3	4,4	0,50262469
4	4,1	0,307793506
5	4,45	0,510417786
6	4,2	0,410391341
7	3,8	0,833508753
8	3,65	0,587142949
9	4,45	0,686332741
10	4,25	0,638666374

The results from the questionnaire assessing students' cognitive engagement levels when using TikTok applications in the speaking class reveal several noteworthy findings. Among the 10 items evaluated, participants consistently reported relatively high levels of cognitive engagement, as evidenced by the mean scores ranging from 4 to 4.45. For instance, items 3, 5, and 9 garnered mean scores of 4.4, 4.45, and 4.45, respectively, indicating a strong perception of cognitive engagement among participants for these aspects. Additionally, items 2, 6, and 10 received mean scores above 4, suggesting a generally positive response to these elements as well. Conversely, items 7 and 8 received slightly lower mean scores of 3.8 and 3.65, indicating a comparatively lower level of cognitive engagement reported by participants for these particular aspects.

Furthermore, the standard deviations accompanying each mean score provide insights into the variability of participants' responses. While some items exhibited relatively low standard deviations, indicative of consistent ratings across participants (e.g., item 3 with a standard deviation of 0.50), others displayed slightly higher standard deviations, suggesting more variability in participants' perceptions (e.g., item 2 with a standard deviation of 0.77). Nevertheless, despite this variability, the overall pattern indicates a general consensus among participants regarding the perceived cognitive engagement levels across most aspects evaluated.

These findings underscore the effectiveness of integrating TikTok applications into the speaking class in enhancing students' cognitive engagement. The high mean scores across various items suggest that TikTok serves as a valuable tool for promoting active participation, critical thinking, and overall engagement among students. However, the slight variability in responses for certain items highlights

the importance of further investigation into specific factors influencing students' perceptions of cognitive engagement when utilizing TikTok in the classroom.

The findings of this study provide valuable insights into the cognitive engagement of students in the implementation of TikTok applications within the speaking class, as well as their alignment with existing theories of cognitive engagement in education. The results reveal a generally high level of cognitive engagement among participants, as indicated by mean scores ranging from 3.65 to 4.45 on the Likert scale across various questionnaire items.

Aligned with the theory of cognitive engagement proposed by Fredricks et al. (2004), which emphasizes students' investment in learning and willingness to exert effort, the high mean scores observed in this study suggest that integrating TikTok applications into the speaking class effectively promotes students' active participation and thoughtful engagement with academic tasks. Furthermore, Veiga et al. (2014) emphasize the importance of high concentration, strategic thinking, and self-regulation in cognitive engagement, which resonate with the findings of this study, where participants demonstrated a strong perception of cognitive engagement across various aspects of the TikTok integration.

The dimensions of cognitive engagement identified by Pintrich et al. (1991), including elaboration, organization, critical thinking, and rehearsal, provide a framework for understanding the specific cognitive processes underlying students' engagement in learning tasks. The high mean scores observed in items related to these dimensions suggest that TikTok facilitates students' active processing of information, organization of ideas, development of independent thoughts, and repetitive practice of material, thereby enhancing their cognitive engagement in the speaking class.

Moreover, Schaufeli et al. (2002) highlight absorption as a key indicator of cognitive engagement, characterized by students' deep immersion and concentration in their studies. The findings of this study, particularly the high mean scores observed across various items, support the notion that TikTok fosters students' absorption and deep involvement in learning activities, leading to heightened cognitive engagement.

Additionally, Lee and Reeve (2012) emphasize the importance of sophisticated learning strategies, strategic learning behaviors, and continuous self-monitoring and evaluation in cognitive engagement. The results of this study, coupled with the high mean scores and relatively low standard deviations observed, suggest that students engaged in strategic and purposeful learning behaviors when utilizing TikTok in the speaking class, thereby enhancing their overall cognitive engagement.

Conclusion

In conclusion, the findings of this study underscore the effectiveness of integrating TikTok applications into the speaking class in promoting students' cognitive engagement, as evidenced by the alignment of results with existing theories of cognitive engagement in education. By providing a platform for active participation, deep immersion, and strategic learning, TikTok serves as a valuable tool for enhancing students' meaningful engagement and learning experiences in the classroom.

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