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INTEGRATING TECHNOLOGY TO ENHANCE GRAMMAR LEARNING AMONG DIPLOMA STUDENTS

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Abstract:

This study investigates the effectiveness of integrating technology in grammar classes for diploma students. The objectives of the study are to examine the efficacy of selected technological tools in teaching grammar, to assess students' engagement and attitudes toward technology-assisted grammar learning and to evaluate the students' improvement in grammar performance through digital tools. With a class of 25 learners from UiTM Melaka, digital tools such as Grammarly, Kahoot!, and Google Classroom were utilised to improve engagement, accuracy, and self-editing skills. The findings suggest that incorporating technology enhances student motivation, participation, and understanding of grammar rules, demonstrating its potential as a supportive pedagogical tool in tertiary education.

Keywords:

Technology, Grammar, Digital Tools

Introduction

Grammar is one of the basic components of language learning that helps students express themselves correctly and effectively. Teaching grammar is often viewed as tedious and complex, which could also affect the attention of the students. Although grammar is known to be a significant factor contributing to linguistic competence, diploma students face more difficulty in understanding its rules within the traditional teaching system, which often does not cater to the learners' needs. Traditional grammar teaching methods are not interactive and enjoyable. Given the rapid development of educational technology, there is an increasing requirement to examine the issue of whether and how digital tools like Grammarly, Kahoot!,

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and Google Classroom can help. However, not much empirical evidence is available regarding how effective these beliefs are in grammar teaching, particularly at a diploma level. As a result, with all the digital learning tools available to teachers today, educators are increasingly looking at how technology can help their students engage better with grammar. This means that using digital tools in grammar lessons allows learners to interact with content in new ways.

Grammarly, an AI-based grammar and General Writing Assistant, is a tool that can also assist students in developing editing skills, thereby making them more independent writers. Platforms like Kahoot! turn grammar drills into games that are fun and competitive. Google Classroom is an organised virtual space for instruction, collaboration, and feedback that can support blended learning and flexible access to grammar materials. This research aims to focus on specific research questions to help guide the investigation of integrating technology in grammar instruction for diploma students. It also examines the pedagogical appropriateness of particular technological tools, learners' attitudes toward their use, and the advancements in grammar skills that are achieved. In doing so, it helps empirically assess the efficacy of using digital tools in language classrooms and provides insights on implementing innovative approaches to grammar teaching in the future. The research questions are as follows:

1. How effective are the selected technological tools in teaching basic grammar to diploma students?
2. What are the students' levels of engagement and attitudes toward technology-assisted grammar learning?
3. To what extent does the use of digital tools contribute to improvements in students' grammar performance?

Literature Review

Incorporating digital tools into the language classroom changes the face of pedagogical activity, such as the traditional method of teaching grammar at the university level. Grammar, one of the driest and most difficult aspects of learning a language, may profit from Technology-Enhanced Learning (TEL).

Grammarly, an automated feedback tool for improving grammatical accuracy and writing quality, is among the most well-known applications. Studies have demonstrated that students who rely on Grammarly allow themselves to make and amend their own mistakes independently (Huang & Xu, 2021). The use of Grammarly with English for Academic Purposes (EAP) writing helps students notice and internalise grammatical errors (Jiang & Dewaele, 2020). The results of their study showed that students who used Grammarly were significantly better off than the other students when it came to performing revision tasks and stating how confident they felt about their writing. Additionally, Bai and Lee (2020) examined the perceptions of Grammarly feedback among university students. The results showed that learners had positive views towards the tool, particularly in terms of its ability to identify frequent grammar mistakes and improve clarity. Grammarly also contributed to develop students' metalinguistic awareness as they began to understand the reasoning behind the incorrectness of particular constructions, thereby providing a supplementary counterpart to teacher instruction.

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Kahoot! is a learning tool that uses games to help learners practice through quiz-based learning while competing with their classmates. Further research on its use in teaching grammar suggests that it motivates learners and captures integral engagement in the classroom. Licorish et al. (2018) mentioned that the instant feedback and point-based format also encouraged students to be more mindful and retain a better memory of grammar. Kahoot! was also mentioned as a motivational tool by Wang (2015), highlighting how it increased student engagement, even among students who often do not engage in class.

Google Classroom has been and will continue to be a key component in supporting blended and flipped learning environments. Anshari et al. (2020) explored the acceptance of Google Classroom at the university level. They concluded that Google Classroom is appropriate for learning to organise learning materials, communication, and feedback. It facilitates timeliness in feedback, which is needed to reinforce grammar instruction. A study by Azhar and Iqbal (2018) investigated the platform in the context of blended learning environments. This study found that Google Classroom was a platform that organised learning better, making it easier for students to complete the grammar exercises and revisit concepts at their own pace. Teachers were also given a quick way to track progress and provide customised help. Moreover, peer collaboration is also supported by using Google Classroom, which enables students to learn more about each other through writing and feedback, thereby enhancing their grammar learning.

Table 1 shows the Key Theories Behind Technology Use in Learning Grammar. It represents how three major learning theories strengthen connections between Grammarly, Kahoot, and Google Classroom for teaching grammar. The use of Kahoot is grounded in the constructivist theory (Vygotsky, 1978) by promoting individualised and social learning in learning the grammar rules through interactive grammar quizzes. Using the Communicative Language Teaching (Richards & Rodgers, 2014), Google Classroom allows students to perform tasks that focus on communicative grammar activities, including academic writing and discussion. Grammarly is supported by Cognitive Load Theory (Sweller, 1988) in that it reduces cognitive load and provides learners with immediate feedback related to grammar. All in all, these theories offer a good grounding for technology to be used as a tool to support grammar learning in diploma students.

Table 1: Key Theories Behind Technology Use in Learning Grammar

Theory	Key Concept	Tool Applied
Constructivism (Vygotsky, 1978)	Learning is constructed through active, social engagement and collaboration	**Kahoot** – Interactive, peer-based grammar practice
Communicative Language Teaching (CLT) (Richards & Rodgers, 2014)	Language is learned best through meaningful, authentic communication	**Google Classroom** – Contextual grammar use in writing/discussion tasks
Cognitive Load Theory (Sweller, 1988)	Reducing unnecessary mental effort helps focus on core learning tasks	**Grammarly** – Provides real-time feedback, reducing the error correction burden

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Methodology

The research utilised a quantitative descriptive approach using a survey instrument to investigate perceived engagement, attitudes, and perceptions of grammar gain through technology-enhanced instruction to 25 first-year diploma students at Universiti Teknologi MARA Melaka. Participants were exposed to all selected digital tools every week. Convenience sampling was used to select the sample because of the availability of the groups. This study utilised a structured questionnaire which consisted of three sections. The first section is the effectiveness of technology in perceiving which tool is helpful in terms of instructional value. The second section is the engagement and attitude of the students in utilising technology-mediated instruction, and the third section is perceived improvement, which is related to students' self-perceived improvement in grammar rule understanding, grammatical accuracy, and writing editing.

A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to measure the participants' responses. In the teaching and learning process of 14 weeks, students were introduced to the game-based platform, Kahoot!, to carry out weekly formative assessment and practice grammar. Quizzes that reinforced grammar rules from the lessons (e.g., subject-verb agreement, tenses, articles). Kahoot! has a competitive, visual flair, encourages engagement, real-time feedback, and collaborative learning. As for Google Classroom, students were assigned grammar assignments every two weeks, and feedback was provided. Students turned in assignments via the platform and replied in the comment threads. It offered a structured, convenient learning environment like asynchronous blended learning. At the same time, Grammarly was introduced to the students specifically for real-time grammar correction, vocabulary enhancement, and self-editing for the written assessments they need to write.

The students were provided with automated feedback and suggestions, which fostered their independent learning and reflected upon their grammatical usage. This tool was used to cultivate writers' metalinguistic awareness and enhance written grammatical accuracy. After week fourteen, a set of questionnaires was distributed to the students. The data collected were analysed using SPSS for descriptive statistics.

Results and Discussion

Table 2 shows the effectiveness of the technological tools used in the class. Grammarly was rated the highest in terms of the most positive tools. The automated feedback system guided students to self-correct their grammar mistakes, thus practising metacognition and improving the accuracy of sentence formation. This result aligns with findings that AI-powered writing tools like Grammarly promote self-regulated learning, enhance writing accuracy, and develop metacognitive strategies (Li & Zou, 2022; O'Neill & Russell, 2019). Kahoot! was also rated 88% effective as an interactive, game-based format. Students were able to revisit grammar content in a fun way. This supports extensive evidence that game-based learning with tools like Kahoot! increases grammar retention, motivation, and student participation (Plump & LaRosa, 2017). Google Classroom received 84% effectiveness, acting as a grammar resource tool that stores all assignments and materials in one place. Students could better manage their time and maintain continuity in their learning. Research supports that Google Classroom's centralised, flexible design improves learner organisation and autonomy, positively affecting academic performance (Albashtawi & Al Bataineh, 2020).

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Table 2: Effectiveness of Technological Tools

Item Statement	Agree/Strongly Agree	n
Kahoot! helped me reinforce grammar rules in a fun way	88%	22
Google Classroom made it easy to manage and access grammar materials	84%	21
Grammarly helped me identify and correct grammar errors in my writing	92%	23

Table 3 shows the students' engagement and attitudes toward using technological tools in grammar class. Notably, Grammarly helps more than 88% of users understand their writing performance better and feel more confident, indicating students were more in control of writing accuracy. Research supports that tools like Grammarly enhance grammar awareness and writing accuracy while boosting students' confidence (O'Neill & Russell, 2019). Confidence is crucial for language acquisition, and students are more likely to engage if they can produce correct language, aligning with Bandura's (1997) theory of self-efficacy. Kahoot!, with its rich visuals and interactive features, transformed teacher-centred lessons into dynamic and engaging experiences. Several studies confirm Kahoot! significantly improves motivation, enjoyment, and grammar learning outcomes among students, helping eliminate the perception of grammar as boring, as mentioned by Chin and Chang (2024) and Hossain and Younus (2024). It also supports classroom engagement and interaction, especially for EFL learners (Barus & Salmiah, 2024). One of the advantages of Google Classroom was its flexibility, especially for students who needed to go at their own pace or revisit materials. This flexibility supports self-regulated learning and has been shown to increase students' autonomy and performance in language acquisition (Albashtawi & Al Bataineh, 2020)

Table 3: Students' Engagement and Attitudes

Item Statement	Agree/Strongly Agree	n
Using Kahoot! made grammar lessons more interesting	76%	19
Google Classroom allowed flexible access to materials and submissions	80%	20
Grammarly boosted my confidence in writing grammatically correct sentences	88%	22

Table 4 shows the perceived improvement in grammar performance. Grammarly managed to receive the highest percentage in improving grammar performance. Grammarly has been proven to enhance the participants' writing by providing real-time feedback, improving grammar accuracy and student confidence (O'Neill & Russell, 2019). It helps the students participate more in class as they are more confident in using language, supporting Bandura's (1997) self-efficacy theory. Google Classroom received 72% in improving grammar performance, as it was flexible for students who needed to pace themselves and review material at their convenience. This feature supports learner autonomy and engagement (Albashtawi &

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Al Bataineh, 2020). Kahoot! received the lowest percentage, though it still aids students in remembering grammar rules for their tests through game-based learning, which has been shown to enhance retention and motivation (Susanti et al., 2020).

Table 4: Perceived Improvement in Grammar Performance

Item Statement	Agree/Strongly Agree	n
Grammarly improved my sentence construction and reduced grammar mistakes	85%	21
Google Classroom helped me revise grammar more effectively	72%	18
Kahoot! helped me remember grammar rules better and prepare for the test	70%	17

Grammarly, Kahoot!, and Google Classroom serve complementary functions at the level of grammar learning. Kahoot! enables accurate writing and self-editing with Grammarly, increases engagement and rule reinforcement, and Google Classroom enables controlled access to materials and collaborative learning. Together, these tools create a technologically enriched atmosphere where students are empowered to learn grammar as they will be more confident and motivated.

Conclusion

This study aims to evaluate the implementation of digital tools for first-year diploma students at UiTM Melaka, namely Grammarly, Kahoot!, and Google Classroom. These findings demonstrated that the impact of these tools has positively affected students' learning experiences, particularly in improving engagement, self-directed learning and grammar awareness. Grammarly was the most effective tool announced in this study, and it allowed students to discover and fix grammar issues, which could result in students writing more accurately and confidently. Kahoot! made grammar review sessions much more interactive and fun, while Google Classroom provided a structured way to access materials and promoted good communication between students and the instructor. According to the students, integrating technology in grammar classes not only enhances students' attitudes towards grammar but also leads to deeper learning. Employing these tools fosters individual-centred learning that promotes independence, drive and sustained interaction, which are fundamental elements of 21st-century language teaching approaches. All in all, technology integration should not be treated as an add-on to grammar instruction but should be an essential part of grammar instruction in contemporary scenarios. Therefore, teachers and practitioners need to adopt and adapt such tools to create a more active and accessible space for grammar learning.

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