

Classroom Intervention in TOEFL Class

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ABSTRACT

Today's trend of teaching has changed quite significantly. After conducting online teaching, innovations in teaching are mushrooming. One such innovation explored in this study is the use of a mobile application as a classroom intervention tool in a TOEFL preparation class. The objectives of this study were to investigate students' performance after preparation class by utilizing a TOEFL application as one technological classroom intervention and to study the students' view on the said application. The participants in this study were students of Institut Teknologi Del, Indonesia, who were enrolled in the TOEFL preparation class. A mixed-method approach was used to collect data. Quantitative data were taken from the participants' TOEFL score in pre-test conducted before the class and from their actual TOEFL Institutional Testing Program (ITP) test. Using Anova Single Factor, the aforementioned scores were analyzed. The result showed that there was a significant effect on students' actual scores after the intervention (P-value = 0,0008). Qualitative data were gathered through an online questionnaire consisting of open-ended questions. The results suggested that the use of TOEFL application as a form of classroom intervention supported independent learning and enhanced the students' overall TOEFL score, with suggestions of improvements in application in terms of the materials and functionality. The study contributes in gaining perspective of the impact of technology-based classroom intervention as a form of enhancement for students' language learning outcomes and their independent learning.

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INTRODUCTION

As one of the most widely recognized high-stake English proficiency exams, Test of English as a Foreign Language (TOEFL), has become one of main requirements for academic admission, scholarship and job application. According to Hoang and Hamid (2017), TOEFL is recognized in approximately 135 countries worldwide, including in Indonesia. There are several versions of TOEFL used to assess English language competency but the most commonly used are TOEFL ITP (Institutional Testing Program), previously known as PBT (paper-based test) and iBT (internet-based test). TOEFL PBT is one of the tests used by most institutions either for internal assessment or placement purposes (Hinkel, 2005). In the context of Indonesia, Institut Teknologi Del (IT Del) is among the institutions that continue to utilize the TOEFL ITP as a standard measure for evaluating students' English proficiency.

Quite similar to the standard practice implemented by many higher institutions in Indonesia, all IT Del students are required to take TOEFL ITP test before finishing their study. The test itself is conducted by IIEF (Indonesia International Education Foundation) in corporation with IT Del Language Unit (UPT Bahasa IT Del). To prepare students for this high-stakes exam, IT Del provides a regular TOEFL class as part of the academic program. This class is given to the students prior to taking the test. The class takes up 16 weeks including 14 weeks for teaching process and 2 weeks for summative tests. After the class, it is expected that the students meet the minimum score of 450.

Based on the average TOEFL score released by UPT Bahasa IT Del, the average score achieved was 463.11 from 323 students who took the test from May 2020 – February 2021. Even though the average score met the required minimum score, students in some study programs scored lower than the minimum score required. Factors either external (technical issues during the online test) or internal (students' cognition and lack of preparation) may influence the students' overall performance in the test. Hartanto and Inayati (2016), in their research, stated four factors influencing students' performance in TOEFL. The contributing factors are teaching method, media, learning materials and instructor.

Previous studies related to TOEFL preparation class have shown quite various results. After the preparation class, there was a significant improvement on the EFL learners' TOEFL-like score (Angraini & Iman, 2024), while Sailuddin (2022)'s research on TOEFL preparation class showed effectiveness in improving students' reading comprehension scores based on the comparison between the pretest and posttest result. In a research by Wahyuni, et al. (2024), teachers administered the TOEFL class by utilizing multimedia platform of Learning Management System (LMS) as a strategy to support personalized TOEFL learning. Moreover, research by Arsyad et al. (2024) stated that the classroom intervention by utilizing technology in a form of gamification demonstrated significant enhancements in TOEFL listening, reading, and overall scores. While previous studies have highlighted the effectiveness of intervention in a form of TOEFL preparation classes in improving scores, particularly after utilizing specific technology, there remains a gap on how different technology-based instructional strategies can improve TOEFL score while at the same time, help promote independent learning.

Therefore, in this study, an intervention was given to students. Interventions have demonstrated success in their application for teaching, such as increasing in-school

engagement (Beemer, et. all, 2019) and improving students' performance in oral argumentation (Venvill & Dawson, 2010). For this study, students were given an intervention by utilizing different form of technology using a TOEFL application with contents of materials for TOEFL ITP preparation. This application was designed specifically with the materials that were chosen for students. The effectiveness of the application was measured through a treatment class for students will lower score (C, D and E) during the TOEFL regular class. The study aimed at investigating students' performance before the treatment and after the treatment by comparing the TOEFL score of students in the pre-class and their official TOEFL ITP score. Further, the students' perception about the application was examined as well.

LITERATURE REVIEW

TOEFL Preparation Class

Generally, a preparation class is designed to help students become more familiar a test, either with the format, content, or strategies required to succeed the test. Ewell and Rodgers (2014) discussed some techniques implemented in preparation class which gave significant impact towards students' performance and readiness in facing test or examination. Similarly, in Bachman and Palmer (2010)'s research, they emphasized that familiarity with the test format and repeated exposure to practice items can reduce test anxiety and at the same time improve test-taking efficiency. For this research, a TOEFL intensive class was designed as a form preparation class for students before taking the TOEFL ITP test. The class was designed in 12 meetings to cover the materials of listening, structure and written expression and reading comprehension. In order to evaluate the class, two tests were prepared; a pre-test at the beginning of the class and a post-test at the end. The class design aligned with Hughes' (2003) suggestion that it is necessary to pair a systematic practice with diagnostic assessment in order to asses students' performance.

Classroom Intervention

Classroom intervention is not a new term in learning. Many studies have been conducted to investigate classroom intervention in English as a second language and English as a foreign language (ESL/EFL) learning (Beemer et al., 2019; Santosa, 2017; Toyama & Yamazaki, 2021; Venvile & Dawson, 2010; Jaya et al., 2018; Warni et al., 2018) and different types of classroom interventions were informed as well. Beemer et al (2019) used gamification as the classroom intervention for young learners to examine whether it could improve learners' the learners' participation. The study revealed that the learners' participation improved in classroom activity. In a context of learning a foreign language, Toyama and Yamazaki (2021) conducted a systematic review on existing research about classroom intervention. Reviewing 40 studies from different databases, they suggested that types of classroom intervention such as individual peer and teacher feedback, computer-mediated communication (CMC) (e.g. text and video chat, writing dialogue journal, etc.), web-based L2 training, and many others, have successfully led to reducing anxiety in learning a foreign language. It has been widely known than lower anxiety level is associated with better quality of foreign language learning (Hu et al., 2021)

In Indonesia context, Santosa (2017) implemented a class intervention in a form of learning practice namely inquiry-based learning. In a setting of flipped classroom, Santosa

(2017) examined if there were any differences in learning outcomes after applying the learning intervention in English department whose learners were adult. Using a mixed method approach, Santosa (2017) found that the intervention enhanced the learning outcomes in that it facilitated interaction, collaboration, and feedback exchange in learning. Besides, it exposed the learners with higher order thinking skills which resulted in cognitive process development.

Meanwhile, Warni et al. (2018) studied how technology was used as an outside class intervention in learning English. The technology interventions referred in this study were activities that participants may do daily with their personal devices, such as mobile phones and computers. When connected to the internet, the participants may read, watch, or listen to English texts. In other words, the intervention improved the amount of their exposure to English language. As an example, they may be involved in English conversations during playing game online with other gamers who speak English. Warni et al. (2018) contended that the outside classroom exposure could improve language learning outcomes. Having completed the study through a mixed method research design, they concluded that the intervention was significant in learning as it promoted the participants' autonomy in learning which was indicated by higher motivation in learning, self-confidence and skills in social communication, and growing awareness in metacognition.

In learning English for TOEFL, Pranoto (2020) studied the effects of reading and English structure and written expression training on respective skills as a classroom intervention. This study involved high school students. Quite similarly, Putri & Akhritiyah (2024)'s research discussed the use of web-based vocabulary games for vocabulary mastery in a form of classroom intervention. From the result of both studies study, it was suggested that the intervention showed noticeable development in participants' reading skills while their skill in structure and written expression was not improved considerably, but the participants' perspective was positive toward the training.

Considering the benefits of various intervention in learning, specifically in this study in learning skills in a foreign language, this study examined the use of a technological classroom intervention, which was an application for learning TOEFL accessible using a mobile phone. A number of studies, including the previously mentioned ones, have involved classroom intervention. However, to the authors' knowledge, the implementation of a technological classroom intervention for a learning English for a specific purpose, in this case TOEFL, is still scarce in the context. Therefore, this study is expected to fill the gap in the literature of classroom intervention, especially the use of technology, in foreign language learning.

RESEARCH METHODS

Research Design

This research employed a pre-experimental pretest-posttest design for a group of students to investigate the impact of a TOEFL preparation class on students' overall comprehension. At the beginning of the study, students took a TOEFL-like pretest. This was followed by a 12-session intervention where students were taught TOEFL in a form of online class covering the materials of strategies and tips to answer questions in the section of listening, structure and written expression and reading comprehension. All of the materials are accessible for

students to do TOEFL practice using the mobile application. After the intervention, students completed a posttest in a form of TOEFL ITP. The results of the pretest and posttest were analyzed using a paired samples t-test to determine whether there was a statistically significant improvement in students' comprehension scores.

Participants

The participants of this research were IT Del students who previously had obtained the grades of C, D, and E during the TOEFL regular class. The grades of C, D, and E indicated that the students' final scores were below 57% suggesting limited proficiency and a need for further intensive support. Based on academic policy, students who received these grades were strongly suggested to attend a TOEFL preparation class in order to give them support before taking a real TOEFL ITP. For the purpose of this research, a total of 95 students joined TOEFL the preparation class.

Software Development

As mentioned in the methodology, the intervention given to the class was in a form of teaching using a mobile application. The application development was assisted by student assistants. Before the development of the application, a number of similar applications for learning TOEFL ITP had been reviewed to determine what was not available in those applications. It was found that the reviewed applications did not provide videos about the explanation of learning materials. From this review, the team developed the TOEFL application called 'Del ToP TOEFL Preparation' and this application had been used as one source of teaching during the TOEFL preparation class which was done online.

During the intervention class, the participants used Del Top TOEFL Preparation application in their independent learning. The application consists of several parts to support the students' learning: About TOEFL ITP, TOEFL ITP scoring system, videos of each topic category in all skills tested in TOEFL ITP (listening, structure and written expression, and reading skills), practice tests of each skill, and complete tests by which the participants may attempt a set of test which is a combination of all skills. All the features could be accessed by the students flexibly at their own convenience.

Data Collection Methods

In this research, a mixed-method approach was applied in data collection process. In other words, both the data were collected quantitatively and qualitatively to provide a comprehensive understanding of the effectiveness of the TOEFL preparation class and the application used. The quantitative data were collected from the participants' TOEFL score in the pre-class and their official TOEFL ITP test which was conducted after the preparation class. The result from the pre-test from the preparation class was collected and compared with their actual TOEFL ITP score.

Moreover, to gain deeper insight on the improvement and betterment of the application development, six open-ended questions were administered to the students to ask for their feedback towards the application design and their feedback on the use of the application in the TOEFL preparation class

Both the quantitative and qualitative data were collected from an online questionnaire. There were two parts of the questionnaire. The first part was to collect quantitative information about the students, including their pre and post test scores, while the second part consisted of 6 open-ended questions, related to the utilization of the TOEFL application and how it helped with students' independent learning.

To ensure content validity, the questionnaire was reviewed by two TOEFL instructors, who evaluated the clarity, relevance, and alignment of the questions with the research objectives. Based on their feedback, minor revisions were made. For reliability, a pilot test was conducted with a group of 29 students who were not part of the main study. The internal consistency of the questionnaire was measured using Cronbach's Alpha, which yielded a value of ,981, indicating a high level of reliability. The data were collected using Google Form and its link was shared to the participants through the class WhatsApp Group for them to access it.

Data Analysis Methods

Once the data from pre-test and from the TOEFL ITP test had been collected, the data were analyzed using Statistical Package for the Social Sciences (SPSS). Specifically, a comparative test was used to see the difference between the participants' pre-test and their TOEFL ITP scores as to see whether the application contributed to their TOEFL score improvement. In addition, the responses to the open-ended questions were analyzed by using qualitative data analysis (Dörnyei, 2007), which aims at highlighting the segments containing the students' feedback, coding the segments, comparing the available codes and classifying them into recurring patterns. These recurring patterns were used as the final feedback for the betterment of the TOEFL application that had been built.

FINDINGS

TOEFL Preparation Class

As mentioned in the previous section, the participants of the research were IT Del students who received C, D and E during the TOEFL Preparation class. The class was conducted within 12 meetings. The total number of students joining the class was 95 students. All the students were divided to six smaller classes (approximately 15-16 students in a class), therefore students had more chances to discuss the materials with the instructors.

During the conduct of the intervention class, the students utilized the use of Del ToP TOEFL Application. Each student downloaded the application through play store and used it as a medium to practice answering questions of TOEFL, based on each section. Four application's main features were: (1) Videos on teaching tips and strategies for acing the TOEFL test; (2) Mini practices of TOEFL questions to familiarize the students with the test; (3) Three complete tests; and (4) Score calculation to help students calculate their TOEFL ITP score based on the number of correct answers from the previous tests taken.

The result from the pre-test from the intervention class was collected and be compared with their actual TOEFL ITP score. The comparison results are shown in the next section.



Figure 1. Del ToP TOEFL Preparation Application

Comparison of Pre Test and Post Test

From 95 students joining the preparation class, 87 students took the pre-test and post-test. The results were compared using Anova Single Factor, as shown in the following table:

Table 1. Comparison of Pre-test and Post-test

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	25813,66	1	25813,66	11,48831	0,000869	3,896092
Within Groups	386475,5	172	2246,951			
Total	412289,2	173				

As shown in Table 1, the P-value = 0,0008 is smaller than alpha = 0,05 then H0 hypothesis is rejected and H1 hypothesis is accepted. This indicates that students' TOEFL score has a significant difference from before and after the application use. Therefore, it can be concluded that the TOEFL application use has impacted positively towards the students' score.

DISCUSSION

Students' Response on TOEFL Application

To check the utilization of the TOEFL application and how it helped with students' independent learning, the students were given questionnaire. There were five main

questions in the questionnaire asking their opinion about the application including the function and navigation, the role of the application in helping students' independent learning, the features that help the most in learning, the features that help the least in learning, and the aspects that need improvement. Overall, the students argued that the app help the students practice and learn TOEFL even though there were some aspects of the app that needed improvement.

After the questionnaire was sent out to the participants, more than fifty percent of the students (52 students) responded to the questionnaire. In regards to whether the app helped the participants in learning independently, most students said that the app helped them become independent learners as the app contains materials and practices that can be learned repeatedly on their own. One of the questions in the questionnaire was *'Does the application help you in your independent learning'*. Most of the students responded positively, even one student commented *'Yes, because it can be used anywhere and the material is easy to understand'*. Relevant to this, some students responded that they used the application when they had free time and before starting the class. This indicated that the use of app allowed the students to be more flexible and independent to study. It also provided students with the flexibility to study at their own pace and according to their individual schedules.

Concerning the features that supported their learning the most and the least, students generally agreed that the mini practices and complete test features particularly in the listening section were the most beneficial. They emphasized that both of these features provided a wide range of questions that could be attempted multiple times. In addition, they could pause and replay the audio when they found it difficult to listen. This condition allowed them to internalize their understanding and become more familiar with the TOEFL question format. Moreover, the repetitive nature of the mini practice and complete test also contributed to building the students' test-taking confidence. Interestingly, when asked about the least helpful features, students did not identify any specific component as unhelpful. However, some mentioned that Structure and Written Expression section was quite challenging because the material was difficult to understand.

In terms of the navigation and function of the app, most students responded positively. They said that the app was easy to use and the function worked well. A participant, for example, said *"I think the navigation of the application is good and the functions of the application are running well"*. However one respondent stated that the app was *'not very helpful, because the TOEFL material is not fully available and sometimes get an error in the page of apps'*. This indicated that while the majority of students found the application helpful for independent learning, there were still some technical limitations and content issues that affected the learning experience for certain individuals.

When asked for their suggestion to the improvement of the app, the majority of the participants suggested that there should be an explanation feature for each question. They expressed that having clear and detailed explanations, particularly for incorrect answers, would significantly enhance their learning experience by allowing them to understand the rationale behind each question and learn from their mistakes. In addition, having the explanation feature would also allow them to review the questions. Feedback in terms of

functionality was also given, as some participants still found issues and errors with the page, which led to disrupting with the learning process.

Classroom Intervention to Support Students' Performance

Based on the result of the pretest and posttest during the TOEFL preparation class, it is clear that the intervention given provided positive impact towards students' overall performance. This result is aligned with some previous research in regards to ESL/EFL context of classroom intervention. Some research found that classroom intervention is generally designed to provide supports for learners, such as to improve their participation (Beemer et al., 2019; Santosa, 2017; Toyama & Yamazaki, 2021; Venville & Dawson, 2010; Warni et al., 2018), to reduce students' anxiety (Toyama and Yamazaki, 2021), and to enhance students' language learning outcomes (Santosa, 2017; Warni et al., 2018).

Moreover, based on the data provided in table 1, it could be seen that the participants' performance in TOEFL ITP improved after given the classroom intervention which was the mobile application to learn TOEFL. This is also aligned with the finding from Prasetyo, et al., (2023), that learning can boost the knowledge transfer using application.

Based on the result of the analysis, it can be concluded that the use of TOEFL application as a classroom intervention has impacted positively towards the students' score. The study did not only reinforce classroom intervention as a form of enhancement of students' language learning outcomes (Santosa, 2017; Warni et al., 2018), but also helped students in their independent learning, by the implementation of a technological classroom intervention through Del ToP TOEFL Application for TOEFL learning.

CONCLUSION

The primary objective of this research was to examine students' performance on TOEFL ITP after having TOEFL preparation class as the main intervention. The TOEFL preparation class utilized an application called Del ToP TOEFL application. The experimental research involved several key stages: building TOEFL app, conducting TOEFL preparation class, analyzing the students' performance during the pre and post-test study, and collecting qualitative feedback through open-ended questionnaires to students. These components were all intended to obtain rigorous and comprehensive results and evaluation upon the effectiveness of the classroom intervention.

The findings revealed a significant improvement in students' TOEFL scores following the intervention, indicating that the use of technology, specifically Del ToP TOEFL application, can effectively enhance students' test-taking skills, based on the repetitive test taking. For future studies, it is recommended to explore the long-term impact of such technological interventions on students' broader language development and retention over time.

In terms to the application development, the feedback from the questionnaire highlighted both strengths and areas for improvement, particularly for the application. Most students found the application beneficial for independent learning since it is easy to access. Moreover, the mini test and complete test questions were varied. However, some contrasting feedback indicated issues with the TOEFL content and occasional technical errors within the app. These findings suggest that while the app demonstrated strong potential as

a medium of learning, further improvement in content such as explanation features for each question and technical functionality such as minimizing the page error are necessary to ensure a more consistent and effective learning experience for all users.

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