



## Enhancing English Test Preparation through Mobile-Learning: Development of Poliban English Preparation Test Application

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### Abstract

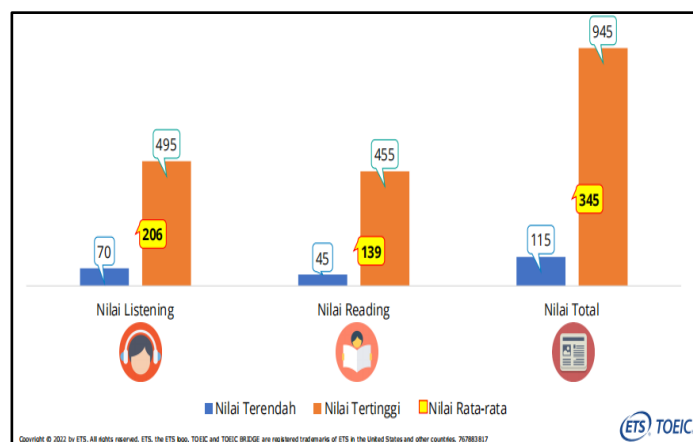
One strategy to optimize TOEIC learning and preparation is to facilitate students to learn anytime and anywhere with materials and exercises through technology integration, specifically a smartphone application. Therefore, this research aims to design a product called the Poliban English Preparation Test Application (PEPTA), which contains listening and reading materials and exercises in TOEIC format. By increasing students' TOEIC scores, this research is expected to contribute to enhancing students' English proficiency through better preparation, increasing the number of overseas scholarship awardees (IISMAVO), and improving foreign language exit test scores in Politeknik Negeri Banjarmasin (Poliban). The research questions to be addressed are: (1) What are the needs of potential users of the application? (2) How can TOEIC materials and exercises be developed in this application-based format? This research employed the Research and Development (R&D) method with the ADDIE model limited to product try-out in implementation stage. There are 383 students from Poliban, Muhammadiyah University of Banjarmasin, and the World University of Bangladesh at the needs analysis stage and 34 students at the try-out of PEPTA. The instruments to be used in this stage include needs analysis questionnaires, an interview guide, validation sheets during product validation, and a questionnaire on the product try out. Data was collected and analyzed. The results showed that the developed product/ PEPTA is valid and practical with the score of 3.63, indicating high practicality. However, there is still room for improvement to maximum students' scores.

**Keywords:** *English, test preparation, mobile-learning, application*

### INTRODUCTION

Among various standardized English tests, TOEIC has become the choice for measuring English proficiency for graduation, job applications, and career advancement (ETS TOEIC, 2022; Nguyen & Gu, 2020). TOEIC has been used by over 14,000 companies, government institutions, and English learning programs in more than 150 countries (ETS TOEIC, 2022). It measures the ability to use English for communication, both spoken and written, in a work context (Cheng, 2002; Nguyen & Gu, 2020; Powers, 2013). It is useful for job applicants as proof of the English skills required in the professional field (Hsieh, 2017; Schmidgall, 2017), and for students to

measure their English proficiency and meet the requirements for overseas scholarships such as IISMAVO. The use of TOEIC is relevant for vocational higher education institutions, including Politeknik Negeri Banjarmasin (Poliban). Graph 1 shows the average TOEIC score of Poliban students in 2023 that is at 345.



Graph 1. Poliban Prospective Graduates' Scores

In addition, based on Poliban TOEIC data from the past three years, there are students with TOEIC scores  $\geq 450$  with scores ranging from 590 to 945. Although the number of students with high scores is still small, this indicates a potential to maximize students' abilities to meet the set score standards. Additionally, Poliban has made efforts to improve TOEIC results for final semester students (semester 5 for D3 and semester 7 for D4) through TOEIC preparation training activities via the Language UPA. However, further efforts are needed to optimize TOEIC learning and preparation by facilitating all students to learn anytime and anywhere, not limited to any semester, given the importance of TOEIC in increasing graduates' competitiveness.

Seen from the number of mobile phone users in Indonesia that reached 350 million people (Musta'in et al., 2022), there is a significant opportunity to leverage the preparation of TOEIC. Also, education nowadays must be able to adapt to the mobile environment (Ahmad, 2020; Lai et al., 2022). In line with this statement, (Jehma & Akaraphattanawong, 2023; Kim, 2022) stated that there is a system can be designed for students to study material or take tests. Previous research has shown that web-based and mobile application learning can help students gain more exposure in learning and TOEIC preparation (Bui et al., 2023; Widyaningrum, 2020).

In recent years, research studies on TOEIC preparation learning resources have been conducted by several previous researchers, including (Koowuttayakorn & Taylor, 2022) who conducted a study on a developed mobile learning application focusing on usability for English language proficiency test preparation in Thailand. This study reported users' satisfaction in the developed mobile learning, but it suggested to include more refinement on usability criteria and gather more participants to enhance the validity and reliability. Meanwhile, (Kim, 2022) utilized AI-integrated mobile-assisted language learning to prepare TOEIC in Korean students. His study showed significant increase in TOEIC scores for all three groups. He noted that mobile devices offer some positive sides such as portability, accessibility, and usability. Another study was conducted by (Jehma & Akaraphattanawong, 2023) in TOEIC listening skills by using a VRChat in quasi-experimental research. This study reported that students' listening skills improvement effectively.

Previously, a simple Android-based listening test application to assess the feasibility of listening test learning media using R&D was also developed by (Wakhidah et al., 2019). The results showed that the developed application achieved a 92% validity rate. Then, (Widyaningrum, 2020) developed a website-based TOEIC preparation application at Politeknik Penerbangan Surabaya. The findings from this research indicated that website and Android-based TOEIC learning media applications can be used anytime by users and can be repeated, thereby improving English language skills. The conclusions of previous research show that web-based TOEIC applications can be used as a means to support TOEIC Preparation learning.

The previous studies mentioned before involved one research setting or one focus of the TOEIC skill. Thus, there has been little research devoted to the development (R&D) of a mobile-based learning medium to prepare students joining standardized tests in the setting of various circumstances including vocational and academic higher education institutions. This development must follow R&D to ensure the validity and practicality of the application. In the end, the application is expected to be able to prepare students in TOEIC. Therefore, this study aims to unravel the development of an application named Poliban English Preparation Test Application (PEPTA). The availability of this TOEIC learning preparation application is expected to excel students' English skills without the constraints of space, time, and distance.

## **Literature Review**

### *English Proficiency*

TOEIC, which stands for Test of English for International Communication, is a program that tests an individual's English proficiency for communication in the workplace (ETS TOEIC, 2022; Nguyen & Gu, 2020). Currently, more than 7,000,000 people take the TOEIC test annually (ETS TOEIC, 2022). The skills tested in TOEIC are listening and reading. Listening means paying close attention to what is spoken or discussed as a process of seriously, attentively, and appreciatively listening to spoken language symbols (Wakhidah et al., 2019; Wei & Low, 2017). Reading, according to (Ahmed, 2016; Anaktototy & Lesnussa, 2022; ETS TOEIC, 2022), is a process carried out and used by the reader to obtain the message the writer wants to convey through written words/language. According to (Sumaira et al., 2022), reading is essentially a complex activity involving many aspects, not only pronouncing writing but also involving visual, thinking, psycholinguistic, and metacognitive activities. Reading helps humans understand what has been read. Regarding the purpose of reading, (Wei & Low, 2017) mentioned that reading aims to: obtain details or facts, obtain main ideas, understand the sequence or organization of a story, infer, classify, evaluate, and compare and contrast. These two skills are tested in TOEIC to examine students' English proficiency level.

### *Mobile-Based Learning*

Effective and enjoyable learning is a necessity as part of providing quality education. One closely related aspect is the existence of learning media. Learning media are an integral part of the learning system; thus, the use of learning media influences student learning outcomes (Febriyanti et al., 2022; Krüger, 2023; Pikhart et al., 2024). Regarding learning media, the utilization of technology in learning is essential in designing, analyzing, evaluating, developing, and implementing materials in the learning process. The complexity of the listening and reading materials in TOEIC requires instructors to present them attractively to engage students and make them

easily accessible. One way to achieve this is by developing mobile-based materials and exercises tailored to the needs and wants of the students. Smartphone apps in English learning (SELLA) are proven to help students develop their vocabulary mastery, grammar, pronunciation, as well as all four English skills (Bui et al., 2023; Klimova & Zamborova, 2020; Kondo et al., 2012).

### **Research Questions**

As a result, the research questions in this present study are: 1) What are the needs and wants of prospective users of the Poliban English Preparation Test Application (PEPTA) in learning English to prepare for the TOEIC? and 2) How can the English material and exercises for the Poliban English Preparation Test Application (PEPTA) be developed based on mobile applications? Meanwhile, the objectives of this research are: 1) To analyze the needs and wants of prospective users of the Poliban English Preparation Test Application (PEPTA) and 2) To develop practical and valid English material and exercises to improve English proficiency for PEPTA users.

## **METHODS**

### **Research Design**

The researchers employed the Research and Development (R&D) method with the ADDIE model design, which consisted of the stages Analyze, Design, Development, Implementation, and Evaluation by (Dick et al., 2015). However, this study presents the stages of Analyze, Design, Development, and the beginning of Implementation stage as R&D is a long process research as there is a time-constrain in this study. It includes qualitative research aimed at creating a systematic, factual, and accurate description at the Analyze or needs analysis stage. Then, product development in the form of a learning application called PEPTA (Poliban English Preparation Test Application) at the Design and Develop stages, and quantitative research by implementing the PEPTA at the Implement stage. Specifically, the independent variable of this research is the PEPTA application for learning and preparing for the TOEIC test, and the dependent variable is English proficiency as evidenced by TOEIC scores.

### **Participants**

The population in this study included all fifth-semester students at Politeknik Negeri Banjarmasin who participated in TOEIC preparation training at UPA Bahasa Politeknik Negeri Banjarmasin, students from Muhammadiyah University Banjarmasin, and students at the World University of Bangladesh, Dhaka. The sample for the needs analysis are 383 students voluntarily responded the questionnaire through Google Form. Then, 34 students were selected as the participants in the try-out of the application.

## Research Procedure

The procedure for this current research is given in Figure 1.



Figure 1. Research Design with ADDIE Model

### Needs Analysis/ Analysis

The first stage of this R&D research is analysis. The researchers designed a needs analysis questionnaire and distributed it to students at Poliban, UMB, and the World University of Bangladesh. The needs analysis data were then be confirmed to the participants through interviews to examine the students' needs, lacks, and wants.

### Product Design

The design stage is the second stage of the ADDIE model. At this stage, the application development team, including <https://birran.com/> and the researchers with IT expertise, designed the UI/UX using FIGMA. Furthermore, learning objectives were designed, evaluation methods were mapped, and the PEPTA was designed based on the findings from the needs analysis stage (Amalia, 2023).

### Product Development

The third step is product development. At this stage, the design created in Figma was implemented using Flutter with a real-time Firebase database. The product was then consulted to the experts and revised based on the feedback regarding the material, language, and media employed given by the experts.

### Implementation

The fourth stage is implementation. The developed application underwent a trial. This phase involved testing the PEPTA with students from Poliban, UMB, and the World University of Bangladesh. A questionnaire was given to all participants in this trial. The product was revised again based on the comments given by the participants.

Further plan is conducting a pre-test before students start using the application. At the end of the implementation stage, students will take a post-test. The results of the pre-test and post-test will be compared to see changes before and after using PEPTA. Then, the step of the ADDIE model will be evaluation stage, which will be conducted to see if the application meets the planning and objectives. The last step of this research is to complete the final product and create a usage guide and media validation. The final expected product is a TOEIC application that can be used by students at Politeknik Negeri Banjarmasin, UMB, and the World University of Bangladesh in the learning process and TOEIC preparation.

### Techniques in Data Collection and Analysis

Data collection techniques in this research included distributing a questionnaire and having an interview in the analyze stage, validation sheets during product validation, a questionnaire on the trial of the application. The details of each instrument are provided in Table 1.

Table 1. The detail of each instrument

| No | Research Stage                   | Data Analysis         | Participants | Instrument                                 | Description  |
|----|----------------------------------|-----------------------|--------------|--|--|
| 1. | Needs analysis                   | Qualitative analysis  | Students     | A questionnaire and an interview guideline | This part produces product specifications that will be used as a basis for product development   |
| 2. | Post-development, implementation | Quantitative analysis | Validators   | Validation assessment sheets               | This part is used to describe data in the form of validation results for material, language, and design and describe product validity from general review, introduction, teaching material description, and conclusion |
|    |                                  |                       | Students     | A questionnaire                            | Describe the practicality of teaching materials during the trial stage   |

### Data Analysis

Data analysis for qualitative data at the analysis stage used numbers in the form of percentages. Additionally, the identified data was tabulated. Two expert validators validated the material, language, and media. Regarding product practicality, the product is considered practical if it has the criteria of ease of use, efficiency, technical design, accessibility and navigability (Hadjerrouit, 2012; Koowuttayakorn & Taylor, 2022). The users were given a questionnaire about using PEPTA using a Likert scale ranging from 1 to 4. Then, the practicality of the PEPTA was measured from the participants/ user responses with the results shown in Table 2.

$$\text{Average achievement} = \frac{\text{total scores}}{\text{total items} * \text{total respondents}} \times 100\%$$

Table 2. Validity and Practicality Criteria

| Average Achievement (AA) | Criteria  |
|--------------------------|-----------|
| $1 \leq AA < 2$          | Very low  |
| $2 \leq AA < 3$          | Low       |
| $3 \leq AA < 4$          | High      |
| $AA = 5$                 | Very high |

## RESULTS AND DISCUSSION

The main findings of this research started from the needs analysis findings on the first stage namely analyze stage. It uncovered the target users' needs, lacks, and wants in the aspect of their understanding toward their general English proficiency, how to prepare themselves in facing TOEIC, how TOEIC contribute to their future carrier, their ability and lacks in listening and reading sections as well as their wants in the developed product of this study as seen in Appendix 1.

The needs analysis of PEPTA development results from both the questionnaire (N = 383) and the interview to five participants to triangulate the results of the questionnaire indicate that while a majority of the respondents have a good grasp of English reading and vocabulary, there are notable gaps in listening comprehension, grammar understanding, and practical communication experience. Additionally, the practice of reviewing English lessons at home is not as widespread as might be beneficial. In the aspect of teaching, the respondents are highly receptive to various teaching techniques and resources, including campus courses, additional practice, self-learning via digital platforms, and using smartphones for English learning. They also emphasize the importance of diverse and effective methods to enhance their TOEIC scores. Then, the majority of respondents are dedicated to their TOEIC preparation, indicating a high level of commitment. Most respondents recognize the significance of TOEIC scores in the job market. This result is in line with (Hsieh, 2017) research indicating that 51.4% of the participants stated the same reason. Almost all respondents find the TOEIC exam relevant to their career aspirations. A large majority think that a high TOEIC score enhances their job prospects (Hsieh, 2017; Nguyen & Gu, 2020). The data indicates that respondents place significant importance on TOEIC preparation and scores for their future careers. They believe that the skills tested by TOEIC are relevant and valuable in the job market, and most are committed to achieving high scores to improve their employment opportunities (H. Nguyen & Gu, 2020; Pan & In'nami, 2017; Sittisuwan, 2019).

Other results on listening aspect of PEPTA needs analysis reflects respondents' self-assessed listening skills in various contexts. While a majority of respondents feel reasonably confident in their listening skills, there is a notable portion who find various aspects of listening comprehension somewhat challenging (H. T. N. Nguyen et al., 2020), especially when it comes to difficulties experienced by non-native speakers of English (Nae, 2023; J. Schmidgall & Powers, 2021). Specific areas like understanding instructions are stronger, whereas identifying main topics in TV news and following field-specific lectures or conversations are more difficult for many. On reading aspect, while a substantial number of respondents are moderately confident in their reading skills, fewer feel fully confident. Specific areas like understanding regulations and simple instructions show stronger confidence levels, whereas identifying specific information and understanding everyday material are areas where respondents feel less assured (Nguyen & Kim, 2021; Oranpattanachai, 2023; Park et al., 2020).

The last data of the needs analysis questionnaire provides a general overview of respondents' perceptions of the relevance, interest, and accessibility of their learning materials for PEPTA. This is due to the involvement of technology to that provide students good experience in English learning (Koowuttayakorn & Taylor, 2022; Suppasetsee et al., 2023; Tso & Chwo, 2019). In addition, the data suggests that respondents generally find the learning materials relevant, interesting, and accessible. However, there are areas where they feel the materials could be improved, such as ensuring they are up-to-date, challenging, and varied. The inclusion of audio and the ease of access through a mobile-phone application that is downloadable freely from

Playstore are seen as beneficial, though there is room for improvement in these aspects as well (Al-Shamaileh & Sutcliffe, 2023; Gokgoz et al., 2021).

Designing the product is the second stage in this research study. The design stage in the ADDIE model is critical for translating needs analysis insights into practical applications. During this phase, a collaborative effort between the application development team, including experts from Birran <https://birran.com/> and the researchers, focused on creating an effective and user-friendly interface and experience (UI/UX) using FIGMA. This collaborative approach ensured that the design was both technically sound and pedagogically effective. The team also established clear learning objectives that aligned with the needs identified in the analysis stage. This evidence-based approach ensured that the application addressed the specific gaps and requirements identified among the target users. For instance, the design included features that catered to improving listening comprehension, grammar understanding, and practical communication experience, which were highlighted as areas needing improvement. The application provides materials or explanation, exercises, and exam/test section.

The actual design of the PEPTA application was informed directly by the findings from the needs analysis. The design stage was a comprehensive process that integrated technical design, pedagogical objectives, and evaluation strategies, all grounded in the initial needs analysis. This holistic approach aimed to create a robust and user-centered PEPTA application that could effectively support learners in their TOEIC preparation and broader English language proficiency. PEPTA plays role as additional materials focusing on listening and reading materials as Politeknik Negeri Banjarmasin provides TOEIC preparation training to all last semester students. The materials needed in each language skill and components are the materials related to communication in English in everyday workplace activities (Hsieh, 2023). As the team has designed PEPTA, it was ready to proceed to develop stage.

The product development as the third stage is pivotal in transforming the conceptual designs into a functional application. In this phase, the designs created using FIGMA were translated into an interactive and dynamic application using Flutter, a robust UI toolkit known for its cross-platform capabilities. The integration of a real-time Firebase database provided a reliable and scalable backend, essential for supporting the application's data needs, including user progress tracking and real-time updates. The evaluation was carried out in this product development. Two expert validators ensured the content validity of this product. The gave feedback particularly on the content, language, and media aspects. The experts provided valuable feedback on several critical aspects: The content and learning materials were scrutinized to ensure they were accurate, relevant, and aligned with the learning objectives. This feedback helped in refining the educational content to better serve the users' needs. The language used in the application was assessed for clarity, appropriateness, and accessibility. This was important to ensure that users could easily understand and engage with the material, which is particularly vital for language learning applications. The multimedia elements, including audio, video, and interactive components, were evaluated for their effectiveness and integration into the learning experience. Expert feedback ensured that these elements were not only engaging but also pedagogically sound. Almost all feedback from the validators were taken into account in the revision stage.

The developed product of this study is shown in Figure 2 – Figure 5.





Figure 2. Interface of PEPTA

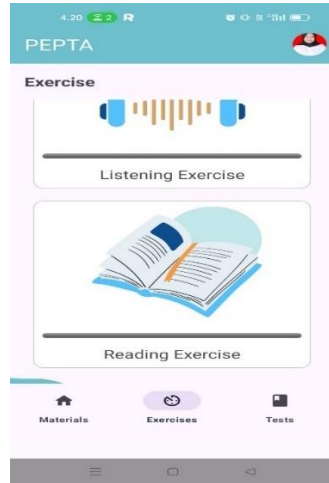


Figure 3. Features of PEPTA

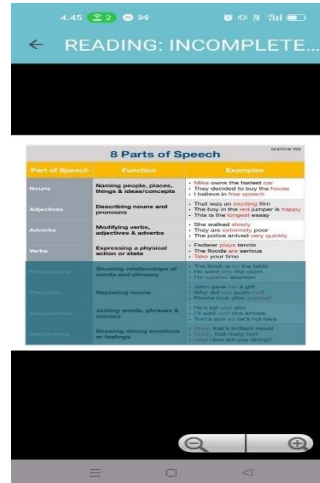


Figure 4. Sample of Materials in PEPTA (the size can be adjusted)



Figure 5. Sample of Exercise in PEPTA

The fourth stage is implementation. The developed application underwent a trial. This phase involved testing the PEPTA to the research participants. They first downloaded PEPTA on their Android mobile phones. They used PEPTA in this trial stage and answered the questionnaire regarding their experience in using PEPTA. The documentation and results of the try-out questionnaire are provided in Figure 6 and Table 3.

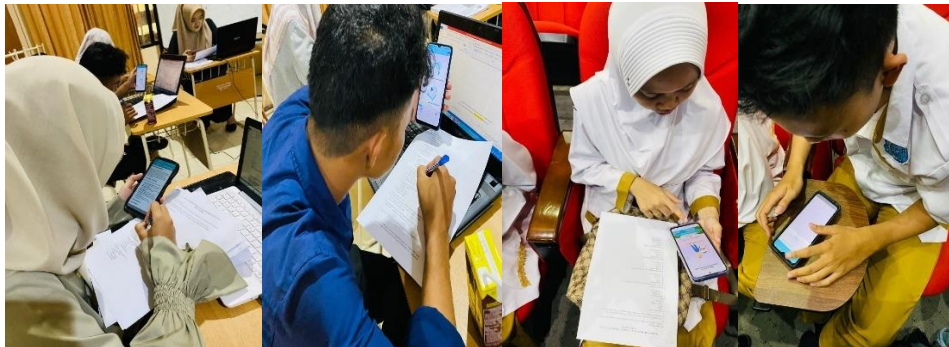


Figure 6. Documentation of PEPTA Try-out

Table 3. The Results of PEPTA Try-out

| Statement                          | Responses (N=34) |        |        |           |                |
|------------------------------------|------------------|--------|--------|-----------|----------------|
|                                    | 5                | 4      | 3      | 2         | 1              |
| <b>Aspect: Application Quality</b> | Excellent        | Good   | Fair   | Poor      | Very poor      |
|                                    | 5.88%            | 88.24% | 0%     | 5.88%     | 0%             |
| 1. Appearance and User Interface   | (2)              | (30)   | (0)    | (2)       | (0)            |
|                                    | Very easy        | Easy   | Fair   | Difficult | Very difficult |
|                                    | 11.76%           | 41.18% | 41.18% | 5.88%     | 0%             |
| 2. Ease of Use (User Experience)   | (4)              | (14)   | (14)   | (2)       | (0)            |
|                                    | Very fast        | Fast   | Fair   | Slow      | Very slow      |
|                                    | 23.53%           | 17.65% | 41.18% | 17.65%    | 0%             |
| 3. Application Performance         | (8)              | (6)    | (14)   | (6)       | (0)            |

| Statement  | Responses (N=34)  |                |                 |               |                     |
|--|---|----------------|-----------------|---------------|---------------------|
|  | 5   | 4              | 3               | 2             | 1                   |
|  | Very stable   | Stable         | Fairly stable   | Unstable      | Very unstable       |
| 4. Application Stability   | 11.76%<br>(4)   | 29.41%<br>(10) | 35.29%<br>(12)  | 23.53%<br>(8) | 0%<br>(0)           |
| <b>Total</b>   |   |                |                 |               |                     |
| <b>Aspect: PEPTA Content</b>   |   |                |                 |               |                     |
|  | Very relevant   | Relevant       | Fairly relevant | Not relevant  | Not relevant at all |
| 5. Relevance of Content  | 17.65%<br>(6)   | 35.29%<br>(12) | 47.06%<br>(16)  | 0%<br>(0)     | 0%<br>(0)           |
|  | Very clear  | Clear          | Fairly clear    | Unclear       | Very unclear        |
| 6. Clarity of Instructions and Questions   | 29.41%<br>(10)  | 52.94%<br>(18) | 17.65%<br>(6)   | 0%<br>(0)     | 0%<br>(0)           |
|  | Very easy   | Easy           | Medium          | Difficult     | Very difficult      |
| 7. Difficulty Level of Questions   | 11.76%<br>(4)   | 5.88%<br>(2)   | 82.35%<br>(28)  | 0%<br>(0)     | 0%<br>(0)           |
| <b>Aspect: Supporting Features</b>   |   |                |                 |               |                     |
|  | Very useful   | Useful         | Fairly useful   | Not useful    | Not useful at all   |
| 8. Usefulness of Supporting Features (e.g., timer, question review, etc.)                  | 29.41%<br>(10)  | 29.41%<br>(10) | 41.18%<br>(14)  | 0%<br>(0)     | 0%<br>(0)           |
|  | Very complete   | Complete       | Fairly complete | Incomplete    | Very incomplete     |
| 9. Completeness of Features (e.g., correct answers, test results report)                   | 11.76%<br>(4)   | 35.29%<br>(12) | 35.29%<br>(12)  | 17.65%<br>(6) | 0%<br>(0)           |
| <i>Average achievement</i>   |   |                |                 |               |                     |
| $= \frac{\text{total scores}}{\text{total items} * \text{total respondents}} \times 100\%$ |   |                | 3.63            |               |                     |
| <b>Aspect: Supporting Features</b>   |   |                |                 |               |                     |
| 10. What shortcomings did you find in this application?                                    | Slow connection<br>Sudden log out<br>Installed on Android only  |                |                 |               |                     |
| 11. What strengths did you find in this application?                                       | Ease of use in English learning<br>Satisfy in adjusting<br>Flexible learning time<br>Simple but easy to understand<br>Clear instruction with relevant materials<br>No need printed materials/ paperless |                |                 |               |                     |
| 12. Suggestions or recommendations for further development of this application:            | More prepared, better application<br>Add games<br>More exercises  |                |                 |               |                     |

| Statement        | Responses (N=34) |   |   |   |   |
|------------------|------------------|---|---|---|---|
|                  | 5                | 4 | 3 | 2 | 1 |
| Available on iOS |                  |   |   |   |   |

The try-out questionnaire for the Poliban English Preparation Test Application (PEPTA) yielded a score of 3.63, placing it in the category of high practicality. Following the try-out, the product was revised based on feedback from participants, with nearly all suggestions accommodated. However, the request to make the app available on iOS could not be fulfilled. The positive feedback regarding the application's quality can be attributed to its user-friendly design and relevant content. The high ratings for appearance and user interface indicate that the application is visually appealing and easy to navigate, enhancing the user experience (Bui et al., 2023; Kim, 2022; Kondo et al., 2012). Clear instructions and appropriately challenging questions likely made the test accessible and manageable, contributing to overall user satisfaction. The favorable responses concerning the content's relevance suggest that the material met users' expectations and needs.

PEPTA allows students to access TOEIC learning materials and practice exercises anytime and anywhere, promoting self-paced and flexible learning (Kim, 2022). This accessibility can help students better prepare for the TOEIC exam and potentially improve their scores, which can enhance opportunities for scholarships, international study programs, and career prospects. However, mixed responses regarding the application's performance and stability might reflect technical issues, such as slow loading times or occasional crashes. These issues could be due to inadequate server capacity, poor optimization, or compatibility problems with specific devices. Feedback about slow connections and the need for iOS compatibility highlights potential areas for improvement. The varied assessments of the usefulness and completeness of supporting features may indicate differing user preferences or expectations, with some users seeking more interactive elements, such as games and additional exercises, to enhance their learning experience (Bilgin, 2021; Kim, 2022). The study's results may have been influenced by the limited time frame, as suggested by (Rutson-Griffiths & Rutson-Griffiths, 2020). They recommended a longitudinal study to better trace the process and outcomes, providing a more comprehensive understanding of the application's impact.

## CONCLUSION

The research concludes that the Poliban English Preparation Test Application (PEPTA) is a valid and practical tool for enhancing TOEIC preparation and English proficiency among students anywhere and anytime. The application successfully integrates listening and reading materials in a TOEIC format, allowing students to access educational resources flexibly through their smartphones. The needs analysis and try-out stages demonstrated that PEPTA effectively meets the requirements of its users, with a high practicality score. Despite the positive reception, the study acknowledges the necessity for further improvements to maximize students' TOEIC scores. The findings suggest that with ongoing refinement, PEPTA can significantly contribute to better preparation for the English exam. The research underscores the potential of mobile-learning applications in educational contexts and advocates for continued development and integration of mobile learning to support language learning. Overall, this research contributes to the field of educational technology by demonstrating the potential of mobile applications in language test preparation and

offers a practical solution to improve English proficiency among students. Future studies related to PEPTA can focus on various aspects, from exploring its long-term effects on test preparation and language proficiency to understanding its psychological and motivational impacts. By addressing these areas, future research could help optimize PEPTA's design and enhance its pedagogical effectiveness, making it a valuable tool in the field of educational technology for language learners globally.

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### Appendix 1. Results of the Needs Analysis

| Question  | Yes   |     | No    |     |
|---|-------|-----|-------|-----|
|   | Total | %   | Total | %   |
| <b>Aspect: Self-understanding</b>   |       |     |       |     |
| 1. Can you understand English reading texts?  | 354   | 92% | 29    | 8%  |
| 2. Can you listen to English conversations and understand their meaning?                          | 278   | 73% | 105   | 27% |
| 3. How much do you understand English grammar?  | 250   | 65% | 133   | 35% |
| 4. How much English vocabulary knowledge do you have?   | 292   | 76% | 91    | 24% |
| 5. Do you review English lessons at home after studying on campus?                                | 209   | 55% | 174   | 45% |
| 6. Have you ever had the opportunity to communicate with English-speaking foreigners?             | 162   | 42% | 221   | 58% |
| Average   |       | 67% | 33%   |     |
| <b>Aspect: Teaching</b>   |       |     |       |     |
| 7. Do you think the teaching techniques of TOEIC preparation instructors affect your TOEIC score? | 343   | 90% | 40    | 10% |
| 8. Do you think English-related activities will help increase your TOEIC score?                   | 375   | 98% | 8     | 2%  |
| 9. Do you think learning English at your campus helps improve your TOEIC score?                   | 365   | 95% | 18    | 5%  |
| 10. Do you need additional practice for TOEIC preparation?  | 328   | 86% | 55    | 14% |

| Question  | Yes     |     | No    |     |
|---|---------|-----|-------|-----|
|   | Total   | %   | Total | %   |
| 11. Do you think giving presentations in English in front of the class can help improve your TOEIC score?                             | 322     | 84% | 61    | 16% |
| 12. Do you think teaching grammar will help you in your TOEIC score?  | 371     | 97% | 12    | 3%  |
| 13. Do you think learning English by yourself through YouTube can improve your TOEIC score?   | 321     | 84% | 62    | 16% |
| 14. Do you think learning English from additional courses organized by the campus needs to be supplemented with other learning media? | 319     | 83% | 64    | 17% |
| 15. Are you happy to learn English through your smartphone?   | 352     | 92% | 31    | 8%  |
| 16. If there is a free TOEIC learning application on the play store, would you download it to help you study?                         | 331     | 86% | 52    | 14% |
|   | Average | 89% |       | 11% |
| <b>Future Career Aspect</b>   |         |     |       |     |
| 17. Are you serious about preparing for TOEIC?  | 346     | 90% | 37    | 10% |
| 18. Do you think TOEIC scores are important for future job applications?  | 362     | 95% | 21    | 5%  |
| 19. Do you think the English tested in the TOEIC exam is useful and applicable in your future career?                                 | 373     | 97% | 10    | 3%  |
| 20. Do you think obtaining a high TOEIC score allows you to get a good job?   | 337     | 88% | 46    | 12% |
|   | Average | 93% |       | 7%  |
| <b>Aspect: Listening</b>  |         |     |       |     |
| 21. I can generally identify the topic of conversation delivered by native English speakers in a conversation.                        | 52%     | 46% | 2%    | 0%  |
| 22. I can follow lectures or conversations in their own field.  | 49%     | 50% | 1%    | 0%  |
| 23. I can grasp the main points in short, clear, and simple messages and announcements.   | 51%     | 47% | 1%    | 1%  |
| 24. I can understand instructions.  | 57%     | 41% | 2%    | 1%  |
| 25. I can understand and extract important information from short recordings.   | 48%     | 49% | 3%    | 0%  |
| 26. I can identify the main topics of TV news.  | 38%     | 54% | 7%    | 1%  |
|   | Average | 49% | 48%   | 3%  |
| <b>Aspect: Reading</b>  |         |     |       |     |



| Question  | Yes   |     | No    |    |
|---|-------|-----|-------|----|
|   | Total | %   | Total | %  |
| 27. I can understand basic types of standard routine letters/emails (inquiries, orders, letters of confirmation, etc.) on familiar topics.                  | 43%   | 55% | 2%    | 1% |
| 28. I can understand short, simple personal letters/emails.   | 40%   | 58% | 2%    | 0% |
| 29. I can find specific, predictable information in simple everyday material such as advertisements, prospectuses, menus, reference lists, and timetables.  | 40%   | 56% | 4%    | 0% |
| 30. I can locate specific information in lists/labels.  | 40%   | 56% | 4%    | 0% |
| 31. I can understand everyday signs and notices: in public places and in workplaces.  | 49%   | 47% | 3%    | 0% |
| 32. I can identify specific information in simpler written material encountered such as letters, brochures, and short newspaper articles describing events. | 39%   | 55% | 5%    | 0% |
| 33. I can understand regulations (for example, safety regulations).   | 58%   | 39% | 3%    | 0% |
| 34. I can understand simple instructions on equipment encountered in everyday life.   | 50%   | 45% | 4%    | 0% |
| Average   | 45%   | 51% | 4%    | 0% |
| <b>Other Aspects (practice, technology, and support):</b>   |       |     |       |    |
| 35. The content of the material is relevant to the test you will face.  | 55%   | 42% | 2%    | 0% |
| 36. Learning materials provided are related to TOEIC questions.   | 57%   | 41% | 2%    | 0% |
| 37. The topics learned are interesting to study.  | 57%   | 41% | 1%    | 0% |
| 38. The topics are up-to-date and relevant to global needs.   | 49%   | 48% | 2%    | 1% |
| 39. The instructions of exercises are easy to understand.   | 62%   | 36% | 1%    | 1% |
| 40. The types of exercises focus on listening and reading skills.   | 55%   | 44% | 1%    | 0% |
| 41. The types of exercises focus on speaking and writing skills.  | 57%   | 42% | 1%    | 0% |
| 42. The types of exercises are various.   | 50%   | 46% | 4%    | 0% |
| 43. The types of exercises are interesting.   | 58%   | 39% | 3%    | 0% |
| 44. The types of exercises are challenging.   | 37%   | 53% | 8%    | 2% |
| 45. There are vocabulary lists.   | 56%   | 40% | 4%    | 0% |
| 46. There are useful phrases (expressions) that help increase language proficiency.   | 58%   | 40% | 1%    | 0% |
| 47. There are grammar sections related to usage / material context.   | 50%   | 48% | 2%    | 0% |

| Question  | Yes   |     | No    |    |
|---|-------|-----|-------|----|
|   | Total | %   | Total | %  |
| 48. Learning materials are equipped with audio.                         | 48%   | 48% | 3%    | 0% |
| 49. Learning materials can be accessed through a website.               | 51%   | 46% | 3%    | 0% |
| 50. Learning materials can be accessed through smartphone applications. | 57%   | 40% | 2%    | 0% |
| Average   | 54%   | 43% | 3%    | 0% |

Adapted from (Burapharat & Tiansoodeenon, 2022; Hsieh, 2017) (N = 383)