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## **AN EXPERT REVIEW OF ACE ENGLISH: A GAMIFIED MOBILE APPLICATION FOR ENGLISH LEARNING**

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### **ABSTRACT**

Gamification involves the use of game design elements and mechanics in non-game contexts, proved to increase user engagement and enhance their learning experience. It has emerged as an effective approach to promote engagement and motivation in various fields including education. Recently, the English language examination format for Sijil Peperiksaan Malaysia (SPM) and Pentaksiran Tingkatan Tiga (PT3) that examined on four skills which includes speaking, listening, reading and writing is considered tougher than previous format and it gives a significant impact and challenges towards the English language learning approach. The traditional teaching method has been adapted and aligned with Common European Framework Reference (CEFR). However, the effectiveness of formal teaching approach is arguable besides the digital transformation in teaching and learning method. The main aim of this study is to analyze a digital learning platform namely, an Ace English, a prototype of a gamified English learning mobile application (app) using expert review. An expert review has been conducted as an evaluation method in analysis of an Ace English design by a UX expert with the goal of identifying usability problems and strengths. The expert review was conducted with five experts to evaluate the Ace English in essential usability dimension which are content, design and function. Findings has shown that all the experts have positive experience on all the three dimensions. All five experts are agreed that Ace English has met the requirement for essential dimensions on design, content and its functionality.

Suggestion for improvement and amendments have been made for the definitive better version of Ace English.

**Keywords:** Ace English, gamification, Common European Framework Reference (CEFR), mobile application, english learning, Malaysian education, and SPM English.

## INTRODUCTION

In recent years, mobile devices have become increasingly ubiquitous, with more and more people relying on smartphones and tablets as their primary means of accessing digital content. According to Ericsson's Mobility Report, there are currently over 7.9 billion mobile subscriptions worldwide, and this number is expected to grow to 8.8 billion by 2026. This trend has been driven by several factors, including the widespread availability of affordable devices, the expansion of mobile networks, and the growing demand for mobile services and applications. As a result, mobile devices have become an essential part of daily life for many people, providing instant access to information, communication, entertainment, and more. The ubiquity of mobile devices represents a significant technological shift that is transforming the way we interact with the world around us. As we continue to rely on these devices for more aspects of our lives, it is essential to understand their impact and potential for innovation and progress in various fields especially in education. In the field of education, for example, mobile devices have opened new opportunities for distance learning, personalized learning, and collaborative learning. Currently, the utilization of gamification approach as contemporary learning tool.

### **Gamification Learning Experience**

Gamification has emerged as a popular and effective approach to promote engagement and motivation in various fields, including education. This principle involves the use of game design elements and mechanics in non-game contexts to increase user engagement and enhance their learning experience. According to Yu-kai Chou (2015), a gamification expert and author of the book "Actionable Gamification," gamification is the process of "integrating game mechanics into non-game contexts to drive user engagement and behavior". Scholars have recognized the potential of gamification as a learning tool and have studied its impact on various aspects of education. Overall, gamification offers a promising approach to improve the learning experience by making it more engaging and fun. It provides a unique opportunity to motivate learners and encourage them to actively participate in the learning process. As such, it has become a popular and effective tool for educators and students looking to enhance their teaching and learning experiences.

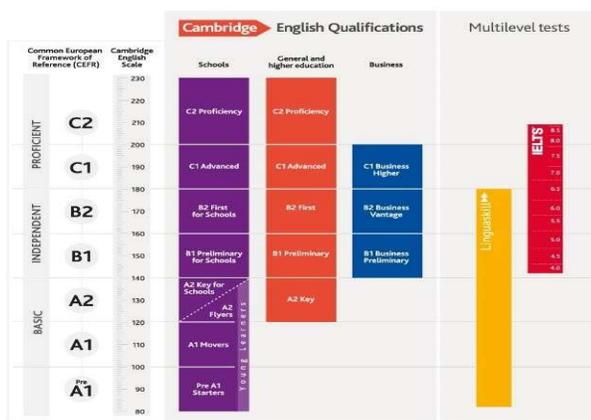
Therefore, gamification experiences can facilitate the growth of cognitive and collaborative skills. Therefore, the development of this application is hoping to provide critical thinking, communication, cooperation, and creativity are the pillars of modern education to cultivate students' capacity, divergent thinking skills, and interest in learning. Information systems had the capacity to influence people's behaviour in a variety of ways, both positively and negatively (Fogg, 2009). Interactive technology can influence behaviour and attitudes, which is referred to as persuasive technology. A convincing idea should be adjusted for the intended audience, message dissemination, and acceptance of computer technology. The use of gamification in education is also seen as an excellent teaching strategy. Technology and play and learning game integration can enhance and improve the immersion of game-based learning. This technology presents chances for this technology to influence students' behaviour.

### Common European Framework Reference (CEFR)

The Common European Framework of Reference for Languages (CEFR) is a widely recognized standard used to describe language proficiency levels. Developed by the Council of Europe, the CEFR provides a common framework for assessing and comparing language proficiency across different languages and contexts. CEFR for English Languages consists of descriptions of procedures to acquire language knowledge and abilities for efficient communication in a cultural context. The six levels of language competences used to classify learners' abilities are clustered into three primary groups: Basic users ranging at Levels A1 and A2, Independent users ranging at Levels B1 and B2, and Proficient users ranging at Levels C1 and C2 (Liana, Obaidul and Peter, 2019). This is the latest English Language format for Sijil Peperiksaan Malaysia (SPM) and Pentaksiran Tingkatan Tiga (PT3). Students will be examined on four skills including speaking, listening, reading and writing. Educators and students fully aware the latest English Language examination format is tougher than previous format where students only be examined on reading and writing skills. Due to this extent, teachers and students will need to be adapted to align with the latest examination format.

**Figure 1**

*Common European Framework Reference*



CEFR emphasizes the importance of communicative competence, which involves not only understanding the rules of grammar and vocabulary but also being able to use language in real-world contexts to communicate effectively. This means that teaching methods should focus on developing learners' ability to use the language in authentic situations, rather than just mastering grammar rules and vocabulary lists.

### Issues on Traditional and Formal Teaching Approach

The latest format of The Common European Framework of Reference for Languages (CEFR) has been implemented in Malaysian important examination is a widely used framework for describing English language proficiency levels. However, the effectiveness of formal teaching approach is arguable. According to Thornbury (2015), the over-reliance on coursebooks in formal language teaching, arguing that they often present an artificial and simplified version of language use that may not reflect the complexities of real-world communication. Teachers should instead focus on creating more authentic learning experiences that reflect the diversity of language use in the real world. Furthermore, the CEFR recognizes that language use is complex and multifaceted, and that learners need exposure to a variety

of authentic language forms and contexts to develop proficiency. This aligns with Larsen-Freeman (2000) noted for a more holistic approach to language teaching, which considers the complexity and variability of language use. This includes an unconventional teaching and learning approach. Unconventional teaching methods are more student-centered and involve a variety of techniques to engage and motivate students. These methods include project-based learning, experiential learning, group work, and personalized learning utilizing different approaches, technology and platform. Unconventional methods are becoming increasingly popular due to their effectiveness in promoting student learning and engagement.

The traditional teaching methods may still have relevance for teaching language proficiency levels as defined by the Common European Framework of Reference for Languages (CEFR), but it may need to be adapted to align with all the CEFR's skills that will be examined which consist of reading, writing, listening and speaking. Traditional methods of teaching and learning process via textbooks or practice modules are still relevant for reading and writing just as the previous examination format. However, to practice student's skill on listening, educators will need additional device which is the speaker to project sound to all the students. The same goes for speaking skills where students will need a personal learning buddy to talk and interact with. These latest formats require newly introduced teaching and learning assistive tools that able to cover English Language education in all four skills which consist of reading, writing, listening and speaking.

### **Comparative Analysis on the Related English Language Mobile Application**

To develop an effective and improved learning-based application, comparative analysis is conducted as it is essential to identify the best practice. Analyzing successful learning apps, developers can understand what features and functionalities make them effective and what aspects may need improvement. Additionally, conducting a comparative analysis can help developers better understand the needs and expectations of their target users. According to Vanessa and Jose (2019), examining similar apps can identify user needs and expectations, as well as gaps in existing apps that they can address in proposed application. Hence, a comparative analysis of similar gamified learning-based applications with the identified functionalities and the limitations has been done as described in Table 1.

**Table 1**

#### *Comparative Analysis*

Learning based Application	Functionalities	Limitation
Duolingo (2012-present)	<ul style="list-style-type: none"> <li>Using gamification approach</li> <li>Grammar and vocabulary lessons, pronunciation practice, and real- world scenarios</li> <li>Emphasizes practice and repetition</li> </ul>	<ul style="list-style-type: none"> <li>Does not referring to Ministry of Education Malaysia syllabus.</li> <li>Limited conversational practice which is crucial for developing fluency.</li> <li>Simplified language that not representative of the complexity of real-life communication.</li> </ul>
BBC Learn English (2018-2023)	<ul style="list-style-type: none"> <li>Wide range of learning resources</li> </ul>	<ul style="list-style-type: none"> <li>Does not referring to Ministry of Education</li> </ul>

	<ul style="list-style-type: none"> <li>• News articles, grammar lessons, vocabulary building language skills through exposure to authentic materials</li> </ul>	<p>Malaysia syllabus.</p> <ul style="list-style-type: none"> <li>• Limited interactivity between system and user.</li> <li>• Focus only on British English</li> <li>• Unfortunately, it is closed since 13 Dec 2023.</li> </ul>
Beelingu (2016-present)	<ul style="list-style-type: none"> <li>• Story-telling based learning</li> <li>• Vocabulary builder, grammar lessons, and pronunciation practice</li> <li>• Developing reading and listening skills</li> </ul>	<ul style="list-style-type: none"> <li>• Does not referring to Ministry of Education Malaysia syllabus.</li> <li>• Limited language options.</li> <li>• Limited speaking and writing practice which are important for developing fluency and accuracy.</li> </ul>

Based on Table 1, the proposed learning-based application, Ace English strive to adapting the functionalities and improve the limitation from similar learning-based application specifically for the learning syllabus. Overall, the recent studies on mobile learning apps and gamification indicate that the integration of gamification elements, such as interactive activities, challenges, rewards, and progress tracking features, can significantly enhance language learning outcomes (Fakhereh, 2023 & Sara, Imane, Samira, 2024).

The content of Ace English is based on the syllabus of Kurikulum Standard Sekolah Menengah (KSSM) that is validated by Ministry of Education Malaysia (MOE). To achieve the proposed main functionalities, The development of Ace English is collaborating with two different elite school from two different sector. The private elite school is SMK Al-Amin Bestari, while the cluster school of excellence SMK Tinggi Melaka is a government school. Both refer to the same syllabus but with a different approach. The learning outcome and examination question is referred from a module the student used to practice for their SPM examination. Latest English Language SPM examination format is examined on all four skills which are, reading, writing, speaking and listening. It is important that the learning outcome is suitable with Common European Framework Reference (CEFR). However, for the initial development of Ace English, this application only covered fully on two skills which is reading and listening. The lesson and question is adapted to into bite-sized to increase user attention. While the answer, tips and answering strategies is collected from English Language teachers at both schools. Utilizing the gamification approach can make learning more fun and engaging by incorporating game elements such as levels, learning buddy, and badges. Thus, it can motivate users to continue learning and make the learning experience more enjoyable. It also improves the retention of learned material by using repetition and reinforcement techniques, such as spaced repetition or game-based quizzes. This can help users retain information better and for longer periods of time.

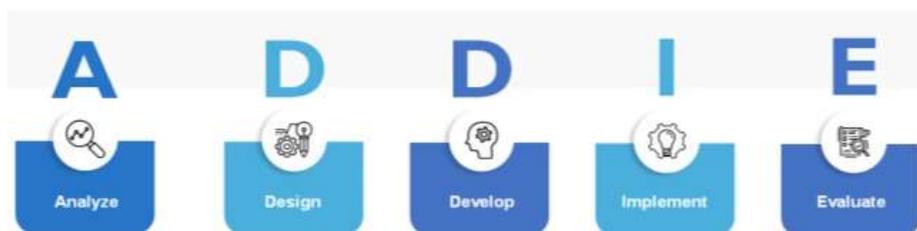
Based on the issues on traditional and formal teaching approach and the comparative analysis, this study has proposed the Ace English, which is a gamification mobile application of English language learning for secondary school learners followed by the Expert Review session in evaluating the design aspect of it.

## METHODOLOGY

This study is adapted the ADDIE methodology in developing the Ace English. ADDIE is a popular instructional design framework used for developing effective learning experiences. According to Dick and Carey (2005), ADDIE methodology stands for Analysis, Design, Development, Implementation, and Evaluation. This framework has been applied to the development of a mobile application for learning based purposes.

**Figure 2**

*ADDIE Methodology*



### **Design and Development of Ace English**

Clients for this study are the English Language teachers from two different high school, Sekolah Menengah Kebangsaan Al-Amin Bestari and Sekolah Menengah Kebangsaan Tinggi Melaka. Meanwhile, the end user for this study are the upper secondary students (Form 4 and Form 5). The design of Ace English involves selecting appropriate instructional methods and media, determining the sequence of instruction, and developing a plan for evaluating the effectiveness of the instructional program. All the initial user interface (UI) design is created utilizing Adobe Illustrator for the separated graphics, button and icon. Adobe Photoshop is utilized to merge all the elements into one complete UI design. The finished initial UI design is exported to Figma prototyping tools to present the initial prototype to the course lecturer. In developing the Ace English application, the actual instructional materials and media are created. All the content and learning outcomes of the English Language subjects are based on actual Sijil Pelajaran Malaysia (SPM) modules for session 2022/2023. The questions are classified into four types of skills which examined on all four skills that includes writing, reading, listening and speaking skills. The contents were adapted and adopted where the presentation style is changed to make it more interesting for the students. All the UI assets created consist of lessons and questions that are imported to Adobe Animate to be programmed to become one final android mobile application.

### **Expert Review Evaluation of Ace English**

The Ace English evaluation is conducted by experts who is recognized in English Language learning-based application as well as in usability and design aspect. The purpose of an expert review is to analyse of a Ace English design with the goal of identifying usability problems and strengths with providing constructive feedback and suggestion (Aurora, 2018). Expert review has been done in Design phase as referred in ADDIE methodology (Dick and Carey, 2005) in evaluating the effectiveness of Ace English as an alternative English language learning tool. Five experts have been involved and the primary purpose of the Expert Review is to provide feedback about the content, design and usability of the proposed Ace English app as well as validating the Ace English.

The experts were selected based on their expertise and knowledge of the relevant research disciplines to verify and validate the content, design, and functionality of the Ace English. Table 2 shows the criteria for selecting the experts based on study by Bluestein (2011). The experts have been classified into two groups. Three experts are the English Language teachers from SMK Al-Amin Bestari and SMK Tinggi Melaka a subject matter expert or content expert. While two experts were from Universiti Teknologi MARA as usability experts.

**Table 2**

*Experts Criteria*

Type of Experts	Experts Criteria
Practitioner	<ul style="list-style-type: none"> <li>Individuals who apply knowledge and skills in a particular field to real-world problems.</li> <li>Employed and have experience working directly with clients.</li> <li>Have at least degree in education field specifically in English Language.</li> </ul>
Academician	<ul style="list-style-type: none"> <li>Employed by universities or other higher academic institutions.</li> <li>Hold advanced degrees and are recognized as experts in Technology or Design</li> <li>Primary role to conduct research and teach students</li> </ul>

**RESULTS**

The expert review evaluation was focusing on three dimensions: design, content and functionality of Ace English. Based on the evaluation instrument for each dimension, the result of evaluation is discussed in detail in the following table 3, 4 and 5. The feedback is noted from these experts, amendments and further improvements have been made.

**Expert Review Feedback on Ace of English Design**

The Ace of English design evaluation covers on five design items which are navigation structure, interface, color, typography, and the character design as described in Table 3.

**Table 3**

*Experts Review Feedback and Remarks of Ace English Design*

Design	Experts				
	A	B	C	D	E
Does the navigation structure design is organized?	/	/	/	/	/
Is the user interface design appealing?	/	/	/	/	/
Does the colour utilize is suitable?	The colour is too	/	/	The colour is too bright and	Low colour contrast, colour

	bright.			the contrast is low.	of the object is almost similar with subject.
Does the typography utilize is appropriate?	/	/	/	/	/
Does the character design is attractive?	/	/	Facial emotion quite sloppy, relevant if character is female since voice record is female.	/	/

Figure 3

Frequency results of Ace English design

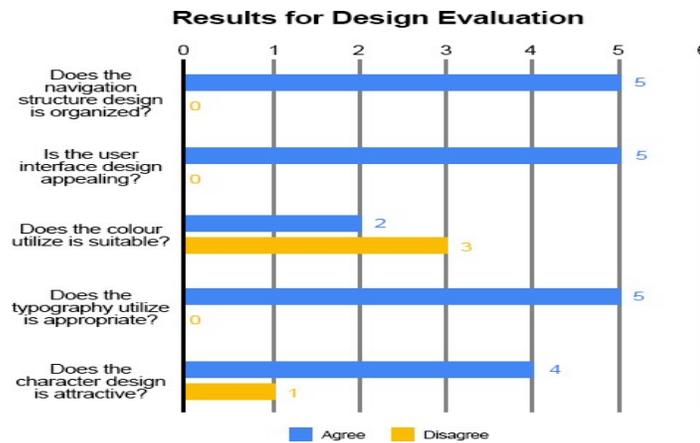


Figure 3 shows the graph for design evaluation. Based on the graph, all five experts are agreeing that the navigation design of Ace English is structured and organized. This is shows that significant of Ace English in utilizing the Tunneling Principle (B.J Fogg, 2003) , a guided persuasive principle through a preset series of actions or events in a step- by-step to promote behaviors. This principle is intended to eliminate "uncertainty". Thus, making the overall process streamlined. Next, all five experts are agreeing that the user interface (UI) of Ace English is appealing. Utilizing consistency in colour scheme, typography and layout, the UI looks more cohesive. Standardizing the way information is conveyed, it helps users to become familiar with the digital landscape of Ace English. Thus, they can achieve their goals easily. Ace English is utilizing soft pastel colour style. However, since three out of two experts disagree that the colour utilize is suitable, improvements will be considered. Utilizing solid colours and higher contrast between elements but keeping consistency in colour palette. All five experts agree that the typography utilize is appropriate. Ace English is utilizing round edge fonts to enhance the mood of users. Dunkin for title while Comfortaa is for content. These typography combinations work well together as they both round edges font. Finally, four of the experts stated that the character design of Aris is attractive. However, one of the experts disagrees. The expert further commented that the character is more relevant

if it is female since the sound narrator in listening question is also female voices.

**Expert Review Feedback on Ace of English Content**

The Ace of English content evaluation covers on five content items which are course outline, content understanding, language style, subtitle and multimedia elements as described in Table 4.

**Table 4**

*Experts Review Feedback and Remarks of Ace English Content*

Design	Experts				
	A	B	C	D	E
Are the contents accurate with MOE course outline?	/	/	/	/	/
Does the content is easy to understand?	/	/	/	/	/
Is the language style suitable?	It is tough but it is suitable	/	/	/	/
Does the subtitle provide is understandable?	/	/	/	The colour of subtitle is soft, not suitable	/
Does the multimedia elements relevant with the content?	/	/	/	/	/

**Figure 4**

*Frequency results of Ace English content*

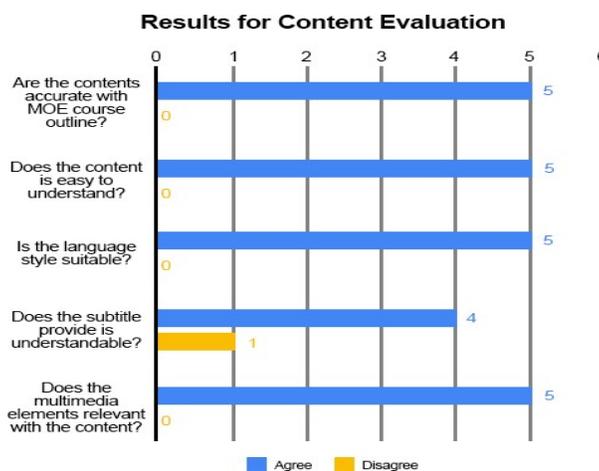


Figure 4 visualizes the graph for content evaluation. Based on the graph, all five experts are agreeing that the contents referring to Ministry of Education (MOE) course outline are accurate. Thus, the Common European Framework Reference (CEFR) is implemented. Due to referring from five English Language and SPM module, the lesson and answer are adapted in Ace English make this application indirectly validated by MOE. All five experts are agreeing that the content is easy to understand. The contents and lesson in Ace English is break down into smaller bite-sized to help user digest the information easily. Ace English also provide visual aids to reinforce key points and utilizing real-world example such as blogging and article from website template being adapted for the question, rather than formal approach. This will help users to understand and connect the content with real-world. Next, all five experts agree that the language style is suitable for student. One of the experts stated that “the language style implements a high and tougher standard of English Language which is suitable for form five students as preparation to face examinations”. Even though the language style and question can be considered tougher, it gives challenges to students so that they can always learn from mistakes. Four of the experts are agreeing that the subtitle provide is understandable. However, one expert stated that the color of the subtitle is not suitable since it has soft pastel color on light colored background that led to low contrast. Thus, it would be quite hard for students to see and causing them to lose attention quickly. Finally, all five experts are agreeing that the multimedia elements are relevant with the contents. Ace English is providing visual aids to help users understand the complex content easily. Utilizing multimedia as visual aids also help to reinforce key points and increase the engagement of users. Multimedia such as visuals and audio are widely utilized in Ace English.

**Expert Review Feedback on Ace of English Functionality**

The Ace of English content evaluation covers on five functionality items which are button, sound record, language style, run smoothly and reliable as described in Table 5.

**Table 5**

*Experts Review Feedback and Remarks of Ace English Functionality*

Design	Experts				
	A	B	C	D	E
Do you find the button easy to utilize?	/	/	/	/	/
Is the sound record understandable?	/	/	/	/	/
Is the language style suitable?	It is tough but it is suitable	/	/	Utilizing gamification theory, users must receive rewards or incentive upon successfully complete the task	Provide users with reward maybe badges after a lesson

Does the application run smoothly without error?	/	/	/	/	/
Do you find this application reliable?	/	/	/	/	/

**Figure 5**

*Frequency results of Ace English functionality*

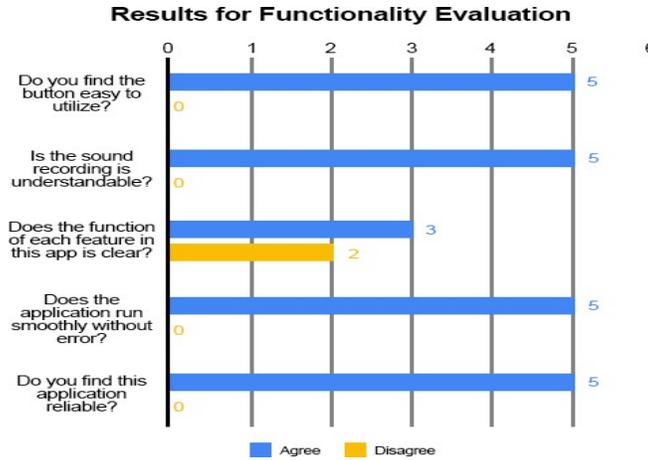


Figure 5 visualizes the graph for functionality evaluation. Based on the graph, all five experts are agreeing that they find that the button is easy to utilize. This is due to Ace English is utilizing affordance and signifiers principle (B.J. Fogg, 2003). In short, affordance is the link between appearance and functionality. A button should look at interacted as a button. The design must be intuitive to the users. While signifiers is the perceptible indicator for intended user to recognize the UI element such as button with label “Next” will led them to next page. Next, all five experts are agreeing that the sound produced is understandable. The sound recording is adapted from real-world examination modules. It is then later being edited into bite-sized content utilizing Adobe Premier Pro. The next statement is “does the function of each feature in this app is clear?”. Based on the statement, three out of five experts agree that the function of each feature is clear. However, two of the experts stated otherwise. Both experts stated that incentives or rewards must be given to the users when they successfully complete a task, question or a lesson. This is an important element when utilizing the gamification approach. One of the experts further suggested that system can reward users as easy as badges just to keep them motivated and nurture a long lasting and continuous learning.

**The Implication of Expert Review Feedback to the Ace of English Mobile App**

Based on the results of evaluation through experts, improvements have been made to achieve a successful learning- based application integrating gamification approach. Three of the experts from practitioner mostly commented on the content aspect. While two experts from academician commented more on design and functionality aspects. As discussed earlier, the evaluation is conducted on three essential dimension which are Design, Content and Functionality of Ace English. Following is the expert review feedback summary that can be improved for the definitive version of Ace English:

- i. The overall color of the user interface and its elements need to be changed into solid colors and slightly darker.
- ii. The color among the design elements needs to utilize the color in the same color pallet to

- retain consistency. The color needs to slightly differ to increase the contrast between design elements.
- iii. The learning buddy gender need to be changed to female as it is relevant with the narrator voice for sound recording. The proposed revised virtual learning buddy is Alia the Ace.
  - iv. The subtitle font size is slightly increased and solid color needs to be replaced instead of light color.
  - v. Virtual incentive and rewards for users need to be provided when they successfully complete a lesson.

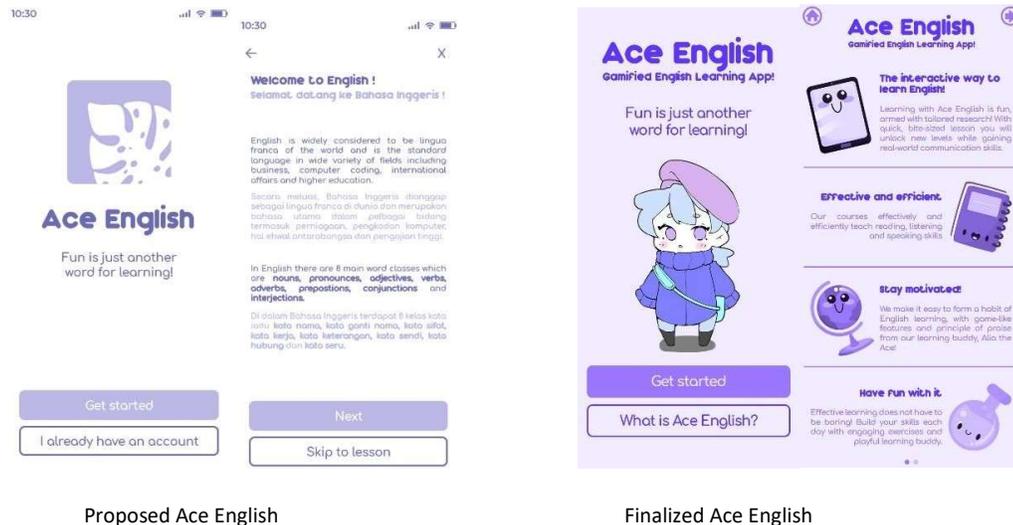
Based on the expert feedback summary, the amendments and improvements on design, content and functionality has been done on the Ace English mobile app. The finalized version for the definitive version of Ace English is conducted thoroughly. Considering on all aspect from the dimensions evaluated, below are the discussion regarding definitive version of Ace English including the proposed and final version of Ace English.

### Login Page

This is the first page of Ace English. Users can get to know more about Ace English, or they can simply choose to start the lesson. Clicking the “Get started!” button will lead the user to the introduction of learning buddy. While clicking the “What is Ace English” will be led to the information page which introduce the user with Ace English and benefits they can gain utilizing this application. Figure 6 illustrates the comparison from both proposed and finalized version of Ace English.

Figure 6

### Proposed and final version of Ace English (Login Page)



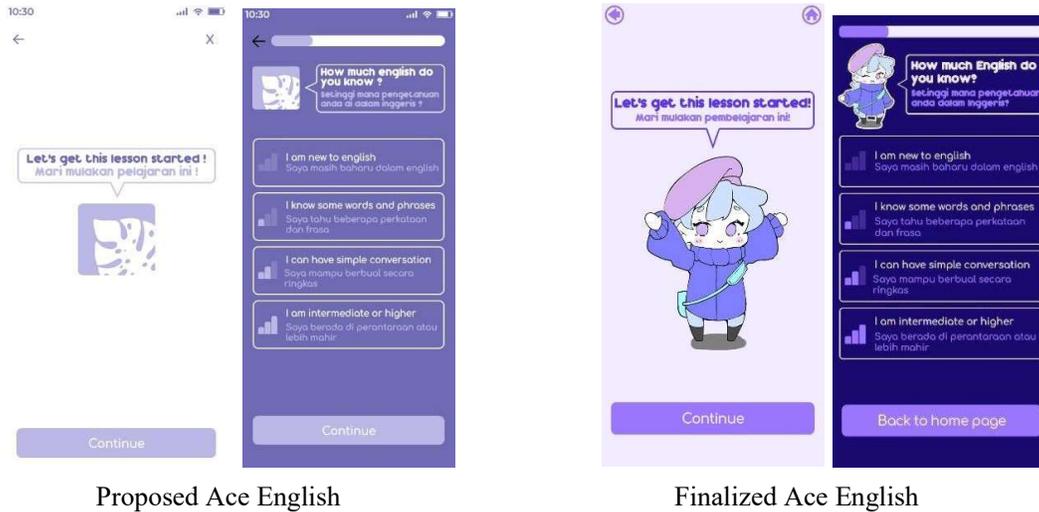
### Learning Buddy

Once users click “Get Started!”, they will be introduced to their learning buddy, Alia the Ace. The learning buddy feature can provide learners with a sense of companionship and support, which can enhance their motivation and engagement in the learning process. Ace is the avatar that resembling a human friend. Based on the justification of the results, the latest character design with different gender is created. The

new learning companion is changed to Alia the Ace. Figure 7 illustrates the comparison from both proposed and finalized version of Ace English.

**Figure 7**

*Proposed and final version of Ace English (Learning Buddy)*

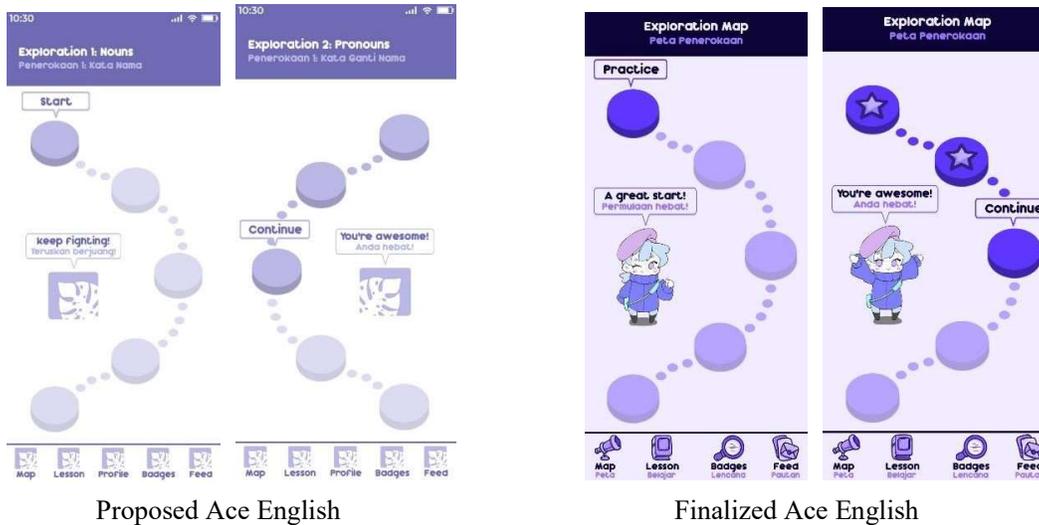


### ***Personalization Features***

The ability of the application to adapt the learning content and experience to the specific needs and preferences of the individual learner. It aims to enhance the learning experience by providing learners with content that is relevant. User will be given a set of personalization question which allow system to know them better. System will decide based on answer provided, user will be direct to either low- or higher-level question. However, for the prototype all users will be redirect to first level question. Based on the justification of results, the overall colour of UI will be slightly colour and utilize solid colours in the same colour pallet to retain consistency. While the colour for design elements and subtitle will slightly differ to increase the contrast among them. Figure 8 illustrates the comparison from both proposed and finalized version of Ace English.

Figure 8

Proposed and final version of Ace English (Personalization Features)

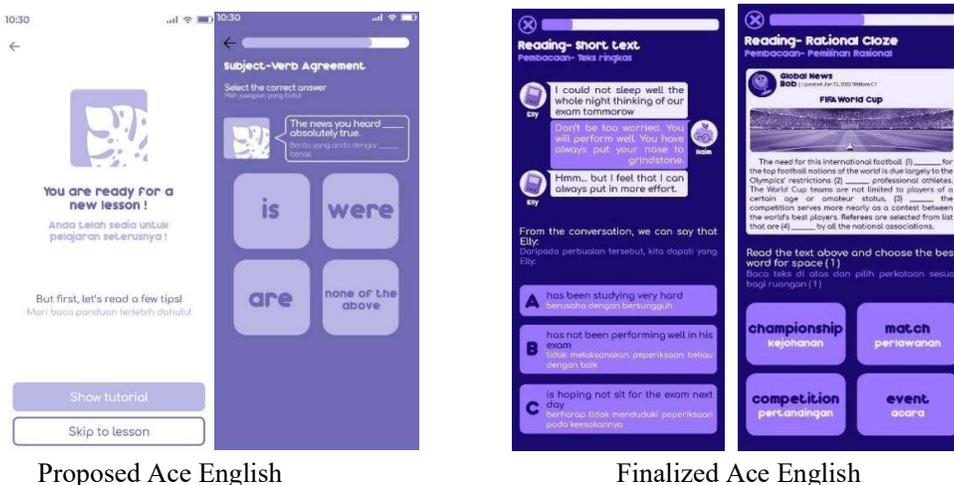


User Interface of the Questions

The question is adapted from real-world Sijil Peperiksaan Malaysia (SPM) module and form five English Language textbook. The content of the question, answering tips and technique have been reviewed and validated by experts. Amendments and improvements have been made according to the learning outcome and suitability for students. User that click other features below is redirected to the “work in progress” page. Based on the expert review summary results, the overall colour of UI is changed to slightly colour and utilize solid colours in the same colour pallet to retain consistency. While the colour for design elements and subtitle is changed to slightly differ to increase the contrast among them. Figure 9 illustrates the comparison from both proposed and finalized version of Ace English.

Figure 9

Proposed and final version of Ace English (User Interface of the Questions)



### Right or Wrong Answer

Based on the question given, the user is provided with multiple choice answers. To select one of these answers, they need to interact with the button for either one of the answers that they believe to be true. Pressing the right answer will pop-up telling users that they have gotten the right answer. Word of praise principle is utilized to keep motivate users by congratulating their efforts. Pressing the wrong answer will pop up telling users that they choose the wrong answer. A try again button will appear, pressing the button that allowed users to try answering again. Figure 10 illustrates the comparison from both proposed and finalized version of Ace English.

Figure 10

Proposed and final version of Ace English (Right or Wrong answer)

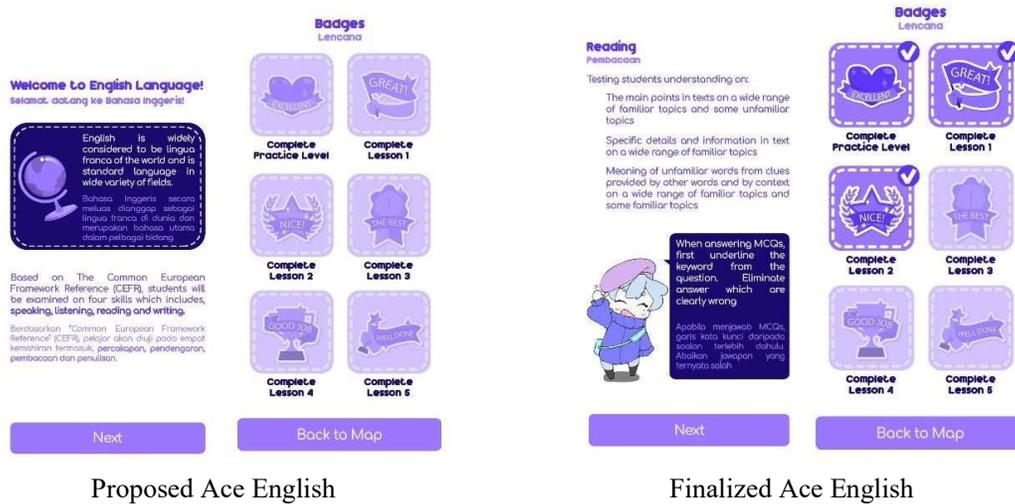


### Lesson and Badge Features

Lesson and badge are the final improvements that have been made for Ace English. In lesson feature users are given a tutorial and English Language lesson regarding all four types of skills that will be examined in Sijil Pelajaran Malaysia (SPM). They will be provided lesson about the theory behind all those four skills, the marking format and techniques from experts on how to tackle the examination questions. While in badge feature, users that accomplish the lesson will receive a virtual rewards or incentives which is badges. These badges can give users sense of belongings and nurture a long lasting and continuous learning. It also increases user engagement and led to positive behaviour of user when utilizing Ace English. Based on the justification of results, the overall colour of UI will be slightly colour and utilize solid colours in the same colour pallet to retain consistency. While the colour for design elements and subtitle is slightly differ to increase the contrast among them. Figure 11 illustrates the comparison from both proposed and finalized version of Ace English.

Figure 11

Proposed and final version of Ace English (Lesson and Badge Features)



## CONCLUSION

Overall, all five experts were agreed that Ace English has met the basis requirement for essential dimensions on design, content and its functionality. Importantly, constructive feedback and suggestions have been received based on the results of evaluation through expert reviews in improving the Ace English. Therefore, redesign of Ace English have been made to achieve a successful learning- based application integrating gamification approach. Improvements and amendments that have been made has meet its purpose which is to develop and effective, valid and reliable learning- based application integrating gamification. The amendments and improvements on design, content and functionality has been done on the Ace English mobile app. The finalized version for the definitive version of Ace English has been conducted thoroughly. Considering on all aspect from the dimensions evaluated, the discussion regarding definitive version of Ace English including the proposed and final version of Ace English with screenshots are also revealed.

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