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I-KALAM: A CEFR BASED MOBILE GAMIFICATION APP FOR ARABIC SPEAKING SKILLS

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Abstract

Smartphones have become necessary because they are used for various purposes, including learning. The current technological advancement has also seen the incorporation of the gamification element as a new norm in education. It is evidenced by the availability of mobile applications that can be downloaded and used by students to facilitate learning. Studies showed that Malaysian university students' mastery of Arabic speaking skills is below the international standard due to a lack of motivation and exposure. Therefore, a mobile application (i-Kalam App) prototype has been developed for learning Arabic speaking skills based on the CEFR standard through the mobile gamification approach model. The William Horton instructional design model comprising four phases (Needs Analysis, Design, Development and Evaluation) was used in a mix-method using questionnaires and structured interviews. With the involvement of ten experts from several local and private universities, the evaluation results showed that experts (M = 4.43) were satisfied with the technological, usability, and pedagogical aspects of the i-Kalam App. Results from the structured written interview with the experts also showed that the application complied with the Common European Framework of Reference for Languages (CEFR) standards, the incorporated gamification elements were appropriate, and the overall application was good. The findings of this study hope to contribute theoretical and practical implications in enhancing Arabic language education in Malaysia.

Keywords: Arabic language, CEFR standard, gamification, mobile application, speaking skills

1.   Introduction

In this 21st century, everyone desperately seeks a more flexible and suitable learning process that can accommodate their needs of both place and time. Technology's growth has changed how humans learn for it to become more effective and efficient. Thus, the teaching and learning process (T&L) goes beyond the physical space of classrooms or lecture halls and has transformed to become more global and lifelong (Ricoy & Sánchez-Martínez, 2019). Previous studies show that mobile technologies, in particular, positively support T&L (Bhat et al., 2018; Supyan et al., 2017; Tkach, 2017), improve performance, and stimulate students' interests (Semerci, 2018). Modern human lifestyles that rely heavily on smartphones make it more convenient to complete a task via the device (Hejab & Shaidah, 2017). The Arabic language is among the discipline that can be integrated with technology (Lawal, 2017). Using technology in learning will make students feel more motivated, thus transforming them from passive to active, participative, and creative learners (Rosell, 2021).

2.   Problem Statement

Speaking skills are among the four language skills that need to be enhanced by the learners, which refers to students' ability and capability to spontaneously convey clear and precise ideas via spoken language (Siti Ikbal, 2006). It covers knowledge, information, views, feelings, and critical and creative thoughts. The ability to master speaking skills thus serves as a factor that can bring success in learning a second or foreign language (Mat Taib & Mohd Rosdi, 2007). Past studies in the Malaysian context have reported that many Arabic language students face significant problems pertaining to poor mastery of Arabic speaking (Anuar, 2016; Siti Salwa, 2017; Siti Salwa et al., 2021). Findings reported by these previous studies thus indicate that the mastery of Arabic speaking skills among Malaysian students at the school and university levels still has a lot of room for improvement. Language proficiency has been a prominent issue in mastering Arabic speaking skills among foreign language learners. Such weakness is due to three main factors, namely the teachers (Gill & Kusum, 2017; M Amarudin, 2016), the students themselves (Siti Salwa et al., 2021) ,as well as the environment (Kamarulzaman et al., 2018).

Every language should have a standard framework that references how language skills should be applied. It also helps to construct the syllabus and curriculum, construct the teaching and learning materials, and assess the learners' performance and fluency. CEFR is a European scale specially designed to reflect the proficiency and mastery of English and other languages. This framework is used as a reference in building various language courses and building assessment instruments (Figueras et al., 2005). Furthermore, the six levels of proficiency (A1, A2, B1, B2, C1, and C2) are applied uniformly, making it easy to condition a language-related need (North, 2000).

The CEFR provides general theories and methodologies to guide language curriculum development, teaching, learning, and assessment (Fişne et al., 2018). The highly complex CEFR document (Zheng et al., 2016) and the ambiguity of dealing with specific language skills (Arıkan, 2015) are among the significant problems of Arabic curriculum syllabus developers. Therefore, there are differences in determining the curriculum syllabus for each language that uses the CEFR guidelines. Even the differences are significant in the curriculum syllabus of the same vocabulary. The development of a

one-language curriculum syllabus according to CEFR standards follows the practicality of the local context (Little, 2011). In Malaysia, the Ministry of Education (MOE) implemented the CEFR standard for the first time in 2018, mainly in the English, Arabic, and other languages curriculum in Primary School Standard Curriculum (KSSR) and Secondary School Standard Curriculum (KSSM). However, such implementation was limited to assessment, benchmarking, and general contexts.

Previously, studies on teaching had focused on classroom management and organization alone (Muhammad Faizal, 2014). But nowadays, the suitability of mobile applications in the learning process also needs to be considered. From a pedagogical perspective, mobile applications are new devices that support the learning process. In addition, mobile applications also offer an appropriate learning environment to aid learning activities in and out of the classroom. Information and communication technology use in learning has changed the teaching or pedagogical training method today (Norliza, 2013). In a mobile application, three components will be involved: individuals, processes, and technologies. Figure 2 shows the relationship between the three components.

Gamification applies techniques and strategies from a game into a non-game context to solve a problem. This method makes the technology more attractive by encouraging users to participate in the desired behaviour. An approach that uses game methods in the T&L process will make it more engaging, interactive, and immersive. Now, gamification is widely applied in the world of education. The gamification learning method means using a game's working principles in the learning process to grow and enhance student motivation and change their behaviour. As a teacher, this technique is appropriate to make the user active. According to Lee and Hammer (2011), games can provide three psychological benefits (i.e., cognitive, emotional, and social), increasing the players' motivation in learning. Rohaila and Fariza (2017) reported that implementing gamification in education is highly encouraged because this generation is more receptive to change in innovation. Siti Rohani et al. (2018) stated that gamification is an initiative to improve learning quality continuously. It also shows that this approach contributes to positive factors in the T&L process of Arabic. Based on a study conducted by Tuan Sarifah Aini (2021), the number of gamification elements found in the review of the literature between 2012 to 2020 is 19 elements. Ten gamification elements that are commonly found are points / score, timer / time limitation, levels, immediate feedback, badges, leaderboards, avatars, stories / storytelling, goals and building groups / teammates. Nine gamification elements that are less found are progress bar/ performance graph, loss aversion, virtual goods, status, rewards, win-state, lives (repetition), instruction, and game rules.

Then, the background of the study has focused on developing an application for Arabic speaking skills based on CEFR standard level A1 through a mobile gamification approach.

3. Research Questions

This study questions what are the expert's views on the mobile gamification application developed based on the CEFR standard for the purpose of learning Arabic speaking skills?

4. Purpose of the Study

This study aims to evaluate the usability of this mobile gamification, i-Kalam app.

5. Research Methods

The mobile gamification i-Kalam app was developed using William Horton's instructional design model, which comprises four phases (Needs Analysis, Design, Development and Evaluation). It was used to ensure that a systematic instructional design was in place for the development process. Figures 1 and 2 show some of the interfaces of the i-Kalam App.
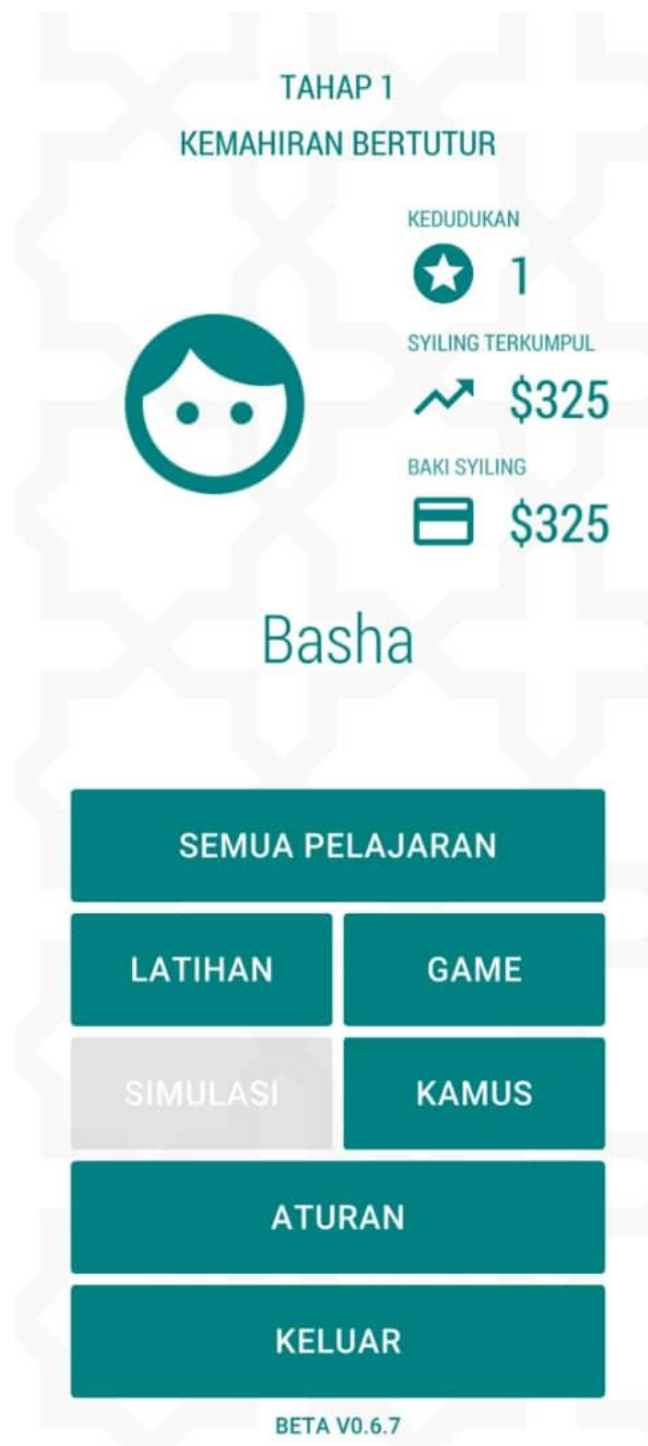

Figure 1. i-Kalam App main menu

Figure 2. Conversational activity

In the evaluation phase, the respondents of this study consisted of 10 experts from among lecturers who have expertise in the Arabic language and information technology. The questionnaire was prepared for the evaluation phase using the TUP Usability Evaluation Model (Bednarik, 2002). The model was chosen due to its suitability in evaluating an application as a whole according to a complete division in terms of technology, usability, and pedagogy. It involved a structured questionnaire for quantitative data and a structured written interview for qualitative data.

The researcher used a set of questionnaires that had been analyzed using the IBM Statistical Package for The Social Science (SPSS) version 28, to evaluate the usability of this application. The questionnaire uses a five-point Likert scale, which is; 1 = Strongly disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree. The data were analyzed through descriptive statistics using a summary of the entire data. It is also able to provide information directly and quickly. Descriptive statistics used are frequency, percentage, mean and standard deviation. The mean score interpretation scale is as follows in Table 1:

Table 1. Mean score interpretation scale

Value Mean	Interpretation Level
1.00 – 2.00	Low
2.01 – 3.00	Medium Low
3.01 – 4.00	Medium High
4.01 – 5.00	High

This study used structured interview questions to obtain the respondents' views and ideas. Similar written questions were given to all experts online to facilitate flexibility and make it easier to provide written answers. The researcher prepared eight structured written interview questions. Questions 1 to 3

elicited the experts' agreement on whether the contents developed met the A1 level of the CEFR standard, which answered the second question in the first research objective. Meanwhile, Questions 4 to 8 obtained the experts' views on the overall learning of the i-Kalam App and further improvements that can be made. The data analysis process was done manually, where all written interview transcripts were compiled and analyzed manually to form a code. The codes were grouped into several categories according to similar characteristics, followed by a classification of themes from the analysis.

6. Findings

The study used the i-Kalam App as an instrument and involved ten experts from several local and private universities; here are the evaluation results.

6.1. Expert view on the usability of mobile gamification

Based on the TUP Model, the finding shows the result below:

6.1.1. The mobile technology

Table 2 shows the mean, standard deviation, frequency, percentage, and interpretation of usability evaluations on mobile technology themes. The overall mean for all items is 4.76, with a standard deviation of 0.38 at a high-level mean interpretation.

Table 2. Mobile technology theme evaluation

Item	Issue	D	N	A	SA	M	SD	Interpretation Level
A1	The mobile technology hardware used in learning i-Kalam speaking skills is suitable			3 30%	7 70%	4.7	0.48	High
A2	Mobile technology is easily adapted to self-directed learning environments			3 30%	7 70%	4.7	0.48	High
A3	Your mobile technology is a concept of learning without boundaries and time limits.			1 10%	9 90%	4.9	0.31	High

All items listed in the expert evaluation of prototype usability on the three mobile technology theme items recorded a mean at a high level. Overall, the above findings show that all items in the mobile technology theme recorded 100% agree and strongly agree. In conclusion, this finding explains that the expert respondents agreed with mobile phones as the mobile technology hardware medium of the i-Kalam App. It is because the selection of such mobile phones is suitable for the learning environment of their time.

6.1.2. The usability of the i-Kalam App

Table 3 shows the mean, standard deviation, frequency, percentage, and interpretation of usability evaluation on the usability theme of the i-Kalam App. The mean value for all items in this section is 4.16, with a standard deviation of 0.68 at a high-level mean interpretation.

Table 3. i-Kalam App usability evaluation

Item	Issue	D	N	A	SA	M	SD	Interpretation Level
B1	The i-Kalam App prototype learning system is interesting to use		1 10%	5 50%	4 40%	4.3	0.67	High
B2	The i-Kalam App prototype platform is easy to use		3 30%	4 40%	3 30%	4.0	0.81	High
B3	The security system in the application prototype is good	1 10%		7 70%	2 20%	4.0	0.81	High
B4	The use of command language is understandable			5 50%	5 50%	4.5	0.52	High
B5	Attractive design/ layout of the i-Kalam App interface		3 30%	4 40%	3 30%	4.0	0.81	High
B6	Ease of navigation makes it easy to browse the i-Kalam App		2 20%	5 50%	3 30%	4.1	0.73	High
B7	The convenience of a voice dictionary makes searching easy		4 40%	2 20%	4 40%	4.0	0.94	High
B8	The type of writing corresponds to the presentation	1 10%	1 10%	4 40%	4 40%	4.1	0.99	High
B9	The audio provided is clear	1 10%	1 10%	3 30%	5 50%	4.1	1.28	High
B10	The recorded audio follows the recording	1 10%	1 10%	3 30%	5 50%	4.2	1.03	High
B11	The scoreboard function in gamification is appropriate	1 10%	2 20%	3 30%	4 40%	4.0	1.05	High
B12	The point function in gamification is appropriate	1 10%	1 10%	4 40%	4 40%	4.1	0.99	High
B13	The function of levels in gamification is appropriate		1 10%	5 50%	4 40%	4.3	0.67	High
B14	The function of trophies/ budges in gamification is appropriate		3 30%	3 30%	4 40%	4.1	0.87	High
B15	The time restriction function in the game is appropriate		3 30%	3 30%	4 40%	4.1	0.87	High
B16	The feedback function in the evaluation of the recorded voice is appropriate	1 10%	2 20%	3 30%	4 40%	4.0	1.05	High
B17	The i-Kalam App works to improve Arabic speaking skills			4 40%	6 60%	4.6	0.51	High
B18	The i-Kalam App is an innovation in learning to speak Arabic.		2 20%	2 20%	6 60%	4.4	0.84	High

All 18 items listed on the usability theme of the i-Kalam App recorded a high mean. Overall, expert respondents agreed and strongly agreed with more than 70% of all subthemes in the i-Kalam App usability theme. At the same time, there is a rate of 20% - 30% who are unsure and 10% who disagree on some items. The 10% disagree rate may be due to some improvements that need to be made to this prototype. As for the uncertainty, it may be because this application is still in prototype form, and the use of the actual capabilities of the application is not yet complete.

6.1.3. The pedagogy in i-Kalam App

Table 4 shows the mean, standard deviation, frequency, percentage, and interpretation of pedagogical theme evaluation in i-Kalam App learning. The total mean for all items in this section is 4.38, and a standard deviation of 0.60 is at a high level of the mean interpretation.

Table 4. Evaluation of learning pedagogy themes in the i-Kalam App

Item	Issue	D	N	A	SA	M	SD	Interpretation Level
C1	i-Kalam App learning strategy in stages		1 10%	4 40%	5 50%	4.3	0.94	High
C2	The i-Kalam learning strategy is self-learning			3 30%	7 70%	4.7	0.48	High
C3	The training provided can strengthen the speaking skills of users		2 20%	3 30%	5 50%	4.3	0.82	High
C4	Games provided can test the level of speaking proficiency of the user		2 20%	4 40%	4 40%	4.2	0.78	High
C5	The audio and voice recording facilities provided in the i-Kalam App help improve users' speaking skills		1 10%	4 40%	5 50%	4.3	0.94	High
C6	The approach of gamification elements (scoreboard, points, budges, etc.) in the i-Kalam App can increase the level of motivation in learning		1 10%	4 50%	5 40%	4.4	0.69	High
C7	Content translation makes it easier for users to understand the learning text.		1 10%	3 30%	6 60%	4.5	0.70	High

Seven items are listed on the pedagogical theme in i-Kalam App learning. The conclusion for the pedagogical theme practised in the prototype of the i-Kalam App is only one item that gets a percentage of 100%. That is the learning strategy item applied in this application is self-learning. The remaining six items recorded a ratio of more than 80%. That shows the pedagogy used in this application following the user's needs.

6.2. Structured written interviews finding

The findings in the study are only to get an expert opinion on the content of the loaded i-Kalam App, whether it meets the CEFR standard A1 level, the advantages and disadvantages, and other expert views on the i-Kalam App. The findings of this section study were obtained from written interviews with experts.

6.2.1. i-Kalam App content complies with CEFR Standard Level A1

Ten experts responded to the written interview on the i-Kalam content to answer the question: Does it meet the CEFR standard Level A1 or not? Example transcript of the first question: STB1: What is your/expert's opinion on the content of this application? Does it meet the CEFR standard of the initial stage A1?

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STB1P1: "Very good and compliant."

STB1P5: "The i-Kalam application developed is **suitable for CEFR level A1** standard. Self-learning content is simple and suitable for **beginners**."

STB1P10: "Conversation topics are appropriate and meet **CEFR A1 standards.**"

Based on the findings of the analysis of the written interview transcripts, all ten experts were satisfied with the content of the i-Kalam App provided following the CEFR standard A1 initial stage. Yet an expert, TB1P3, suggested researchers make sure the level of language and vocabulary used in the i-Kalam App with level A1 or Pre A1 (starters /movers/flyers) is in English.

6.2.2. Advantages of i-Kalam App content

The findings of a written interview show the advantages of the i-Kalam App to answer the question STB2: What are the advantages of the application? Example transcript of the advantages of the i-Kalam App:

STB2P2: "**Easy to use**, scoreboard encourages students to keep learning and collect points, clear footage, quick feedback."

STB2P5: "1- Details of learning content **based on CEFR level**. 2- Attractive mobile learning applications. 3- Gamification elements that increase learning motivation through gradual challenges."

STB2P7: "User friendly and in **line with the requirements of CEFR A1 standards**."

Based on the analysis of expert interview transcripts, the researcher concluded that there are 16 themes of the advantages of the i-Kalam App responded to by ten experts. These are positive themes that are helpful for this prototype to be perfected in the future.

Regarding theme frequency, there were the most frequently mentioned themes with a percentage of 19.4%. The theme is "content based on CEFR standards". Two themes follow this "the content of this application is easy to use" and "the prototype content of the application helps students learn speaking skills", with a percentage of 9.52%. The remaining 14 themes are equal to 4.75%, as described in Table 5.

Table 5. i-Kalam App contents strength themes

No	Themes	Number of experts	Per cent frequency
1	Learning content based on CEFR standards	4	19.40 %
2	The content is easy to use	2	9.52 %
3	Learning content assists students in learning speaking skills	2	9.52 %
4	Daily conversation	1	4.75 %
5	Concise content	1	4.75 %
6	Assists pronunciation	1	4.75 %
7	One innovation	1	4.75 %
8	Active learning	1	4.75 %
9	Appropriate content	1	4.75 %
10	Supports learning	1	4.75 %
11	The specific contents of the Malay speakers	1	4.75 %
12	Various conversation topics	1	4.75 %

13	Meet the needs of students	1	4.75 %
14	Suitable for low levels	1	4.75 %
15	Compact content	1	4.75 %
16	Targeted content	1	4.75 %
	Total	21	100 %

Note. The questions were analyzed according to the frequency of answers by the experts.

6.2.3. Disadvantages of i-Kalam App content

The researcher also asked the experts to provide written comments on the disadvantages through the written interviews. Question TB3: What are the disadvantages of the application? Examples of transcripts of weaknesses of the i-Kalam App:

STB3P2: "i. **The use of sentences** that are less friendly to the basic level of students, such as بلقائك سررت suggestions - fursah saidah..sufficient, helps **pronunciation** that is easier and more popular is used for beginner students ii.Anta min ayyi balad? Ana min Johor, it should be "region" iii. **The dialogue** "usrah kabirah" does not fit the storyline, there are only 2. iv. **The dialogue** asks age, then ends with ma'assalaamh, less appropriate."

STB3P7: "There are not **many options and answers**."

STB3P10: "The **spelling**, **phrases**, and **expressions** in the instructions and also **Malay translation** needs to be reviewed."

Based on the analysis of the transcript findings of all experts, the researcher concluded that there are seven themes of disadvantages in the i-Kalam App. The following themes are dialogue or conversation, word, pronunciation, sentence arrangement, translation, exercise, choice of questions and answers.

The first theme is related to the dialogue or conversation of the i-Kalam App module. Two frequencies (14.29%) stated that some errors in phrases and sentences of conversation were less friendly and less appropriate. For example, the experts suggest that the conversational sentence "سررتُ بلقائك" be replaced with "فرصة سعيدة" on the grounds of helping a more straightforward and more popular pronunciation be used for beginning-level users.

The second theme is related to some words that are misused and misspelt. Based on the transcripts' analysis, two frequencies also represent 14.29%. Among the words that are less suitable for the beginning level that experts have raised is "طيّارة/طيّار". Experts suggest replacing it with a more appropriate word.

The third theme is recording inaccurate and inconsistent pronunciation, and two frequencies from the transcripts represent 14.29%. For example, "السلام وعليكم" is called "waalaikummussalaam" which is precisely called "waalaikumussalaam". While an example of inconsistency is when the pronunciation of "ما اسمك" is called "maa ismuka" and there is also the pronunciation of "mas muka". Apart from that, the point of view of the slow voice of the conversation partner may cause the user to be unable to pronounce the conversation or words well.

The fourth theme of the weakness of the application content is related to the inverted arrangement of several sentences. Two frequencies were recorded in the analysis and represented 14.29%. The fifth theme related to translation. There were two frequencies with 14.29%. This weakness refers to translation errors. One example stated by the experts was the dialogue "مع السلامة" was translated as "see you again".

Next, the sixth theme is exercise, which was seen as less suitable and insufficient in the application, thus in need of further addition. This theme also recorded two frequencies with a percentage of 14.28%.

The seventh theme is the choice of questions and answers. The experts stated that the conversation module in the application does not have many question and answer options. Questions and answers in the conversation need to be varied so that users get a lot of possibilities in practising Arabic, especially in the beginning stage. There are also two frequency results from the analysis of expert-written interview transcripts for this theme. These two frequencies represent a percentage of 14.28%. Table 6 contains a summary of all weaknesses reported in the contents of the i-Kalam App.

Table 6. Themes (coding) weaknesses of i-Kalam App content

No	Theme	Number of experts	Per cent frequency
1	Dialogue	2	14.29
2	Word	2	14.29
3	Pronunciation	2	14.29
4	Sentence arrangement	2	14.29
5	Translation	2	14.29
6	Exercise	2	14.28
7	Choice of questions and answers	2	14.28
	Total	14	100%

Note. The questions were analyzed according to the frequency of answers by the experts.

As shown in Table 7 below, the researcher found two frequencies of the statement "no significant weaknesses" and one with the statement "No comment" on the weaknesses of the i-Kalam App.

Table 7. Themes (coding) Weaknesses of i-Kalam App content

No	Theme	Number of experts
1	There are no disadvantages	2
2	No comments	1
	Total	3

In conclusion, the findings indicate several disadvantages to applying the i-Kalam App. Following the analysis of the written interview transcripts, seven themes were identified that describe these disadvantages, thus helping the researcher improve the developed application.

6.2.4. Overall Advantages of the i-Kalam App

In stating the overall advantages of the i-Kalam App, the researcher listed several subthemes based on analyzing transcripts of written interviews with experts. Here are some transcript samples on the overall strength of the application.

STB4P2: "*Increase student **motivation** to **master speaking skills**, **mobile**, **can be used at any time**.*"

STB4P5: "*1. An application that will **help students/users** to learn Arabic especially self-speaking skills in one **simple application**.2. Learning is tailored to skill level (**based on CEFR standards**).*"

STB4P7: "*Self-study according to CEFR.*"

Based on the data analysis, the researcher has categorized all the expert-written answers with several themes and subthemes. Table 8 shows the themes and subthemes that the researcher has categorized.

Table 8. Themes and subthemes of the overall strength of the i-Kalam App

Theme	Learning Strategy	Content	User Interface
	Gamification	Based on CEFR standards	Easy to use
	Motivation	Easy to use	Current learning trends
	Portable	Assist students in learning speaking skills	The recording is clear
	Anytime	Daily conversations	Quick feedback
	Voice imitation	Concise	Simple and attractive face board
	Repetition	Assists pronunciation	User friendly
Sub Theme	Self-learning	One innovation	
	Gradual challenge	Active learning	
	Technology-assisted learning	Appropriate content	
		Supports learning	
		The specific contents of the Malay speakers	
		Various conversation topics	
		Meet the needs of students	
		Suitable for low levels	
		Compact	
		Aim	

Based on table 8 above, three themes can be identified by the researcher related to the overall strength of the i-Kalam App, namely learning strategy, content, and user interface:

6.2.5. Learning Strategy

The T&L strategies used in technology-assisted learning are very important for the success of the learning process. The theme has been analyzed based on the total frequency from the data collected. The subthemes that received the highest frequency were "motivation" and "self-learning", each getting three frequencies with a percentage of 20%. The following subthemes, "gamification" and "mobile", get two frequencies with 13.3%. While the remaining subthemes, "anytime", "voice imitation, "repetition", "gradual challenge", and "technology-assisted learning", only got one frequency with a percentage of 6.7%. The researcher summarises the data analysis in Table 9 below.

Table 9. Themes and subthemes of the overall strength of the i-Kalam App (Learning Strategy)

Theme	Learning Strategy	Frequency	Percentage
	Gamification	2	13.3%
Sub Theme	Motivation	3	20 %
	Portable	2	13.3%
	Anytime	1	6.7%

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Voice imitation	1	6.7%
Repetition	1	6.7%
Self-learning	3	20%
Gradual challenge	1	6.7%
Technology-assisted learning	1	6.7%
Total	15	100%

6.2.6. Content

Content is one of the important aspects in the i-Kalam App. Such importance has been previously highlighted before.

6.2.7. User Interface

The user interface is a theme that can be analyzed from transcripts of written interviews of 10 experts in statements related to the strength of the i-Kalam App. There are six subthemes under the theme of the user interface. The subtheme that received the highest frequency was "easy to use", with two frequencies with a percentage of 28.5%. The next subtheme, "current learning trends", "clear recording", "quick feedback", "simple and attractive interface", and "user-friendly", all recorded only one frequency representing a percentage of 14.3% each. The researcher summarises the data analysis in Table 10 below.

Table 10. Themes and subthemes of the overall strength of the i-Kalam App (Interface)

Theme	Performance	Frequency	Percentage
Sub Theme	Easy to use	2	28.5
	Current learning trends	1	14.3
	The recording is clear	1	14.3
	Quick feedback	1	14.3
	Simple and attractive face board	1	14.3
	User friendly	1	14.3
	Total	7	100%

The researcher concluded that the overall strength of the i-Kalam App could be seen from the three themes of learning strategy, content, and user interface. Cumulatively the findings of the transcript analysis indicate that the application has positive overall strengths, as noted above.

6.2.8. Overall disadvantages of the i-Kalam App

The analysis of the written interview shows the disadvantages of the i-Kalam App. Here are some of the transcript samples on the weaknesses of the application.

STB5P2: *"There are a **few weaknesses in the content**. The **recording** can still be improved."*

STB5P5: *"1. The **interface and appearance** of the application are quite simple and need to be improved to **make it more attractive** 2. Some items/functions that need to be improved."*

STB5P9: *"**Writing and voice elements** can be supported with video example conversations etc."*

Table 11. Themes and subthemes of the overall weaknesses of the i-Kalam App

Theme	Content	User Interface
Sub Theme	Dialogue	Limited dictionary search
	The word	No response time display
	Pronunciation	The voice is not clear
	Translation	Voice matching is not parallel
	Exercise	Simple face board
	Sentence arrangement	Some items do not work
	Choice of questions and answers	
	There are no disadvantages	
	No comments	
	Total frequency & percentage of responses by experts	

Based on Table 11 above, two themes can be identified by the researcher related to the overall weaknesses of the i-Kalam App, content, and user interface:

6.2.9. Content

Weaknesses pertaining to the contents of the i-Kalam App have been previously reported.

6.2.10. User interface

Regarding the overall weakness of the i-Kalam App, it was found that there were eight different sub-themes for the user interface theme. All were data analyses of transcripts of written interviews with 10 experts. Of all the existing sub-themes, two sub-themes got the highest percentage of 20% with two frequencies. Other than that, we only get one frequency with a percentage of 10%. The researcher summarises the data analysis in Table 12 below.

Table 12. Themes and subthemes of the overall interface weaknesses of the i-Kalam App

Theme	Interface	Frequency	Percentage
Sub Theme	Limited dictionary search	1	10%
	No response time display	1	10%
	The voice is not clear	1	10%
	Voice matching is not parallel	2	20%
	Simple face board	2	20%
	Some items do not work	1	10%
	The graphics are less interesting	1	10%
	Still a prototype stage	1	10%
	Total frequency and percentage	10	100%

However, two experts stated that there are no significant weaknesses in the i-Kalam App. Overall, the researchers focused on the findings of these weaknesses in improving the i-Kalam App.

6.2.11. Gamification elements of the i-Kalam App

Among the elements that want to be highlighted in this study is using gamification elements. As a result of the transcript of a written interview with ten experts on the gamification element of the i-Kalam App, the researcher categorized five themes, namely "very good", "very interesting", "interesting", "good", and "suitable". Example of Transcript related to gamification elements of i-Kalam App.

STB6P2: "**Elements of the game can be seen** in the use of points/prizes. However, the form of the game needs to be expanded, not just the practice of repeating the pronunciation."

STB6P4: "i- Details of learning content **based on CEFR level**. ii- **Attractive mobile learning** application. iii- **Elements of gamification that increase learning motivation** through gradual challenges."

STB6P5: "The **gamification element is interesting and appropriate** to the skill level. However, **content needs to be improved** to make it **more attractive and easy to use**."

Table 13. Themes, frequency, and percentage of expert views on gamification elements

Theme	Frequency	Percentage
Very good	1	9.1%
Very interesting	1	9.1%
Attract	2	18.1%
Good	3	27.3%
Appropriate	4	36.4%
Amount	11	100%

Table 13 shows that 36.4%, i.e. four frequencies from the analysis of expert-written interview transcripts related to the gamification element shown in this application, are appropriate. 27.3% were good with three frequencies, 18.1% attractive with two frequencies, very good and very interesting each recorded only one frequency with a percentage of 9.1%. These findings indicate that all experts agree that the gamification elements used in this prototype are appropriate and attractive.

7. Conclusions

The study concluded that the findings from the expert view as below:

i.   The overall mean for all items of mobile technology themes is 4.76, and a standard deviation of 0.38 is at a high-level mean interpretation.

ii.   The mean for all items of usability themes is 4.16, and a standard deviation of 0.68 is at a high level of means interpretation.

iii.   The mean for all items of pedagogical themes in the i-Kalam App is 4.38, and a standard deviation of 0.60 is at a high-level mean interpretation.

iv.   The overall strength of the i-Kalam App can be seen from the three themes of strategy, content, and interface. Cumulatively the findings of the transcript analysis indicate that the application has positive overall strengths, as noted above.

v. Two experts stated that there are no significant weaknesses in the i-Kalam App. But, overall, the researcher paid full attention to the findings of these weaknesses in improving the i-Kalam App.

vi. The findings indicate that all experts agree that the gamification elements used in this application are appropriate and attractive.

The evaluation results showed that experts (M = 4.43) were satisfied with the technological, usability, and pedagogical aspects of the i-Kalam App. Results from the structured written interview also showed that the application complied with the CEFR standards, the incorporated gamification elements were appropriate, and the overall application was good.

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