

Developing English App-Based Mobile Learning as the Innovation of English Learning Media

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Abstract. This research aims to develop learning media as an innovative English app to enhance the process of teaching-learning English in 4.0 Era. This app can be integrated with a hybrid learning model prepared to deal with post-pandemic-era challenges. This research was conducted based on the needs analysis of current learning that cannot be carried out fully face-to-face, as well as the needs of students and educators towards effective learning media. This research aims to elaborate on designing and developing learning media English App-based M-Learning and examine the feasibility of that media in the learning process of General English Courses at the University of Billfath. The research design used is Research and Development (R&D) by applying the ADDIE model with five stages: analysis phase; design; development; implementation; evaluation.

Further, the result of this research points out that in analyzing phase found, 71,3 % of college students require specific learning media-based M-learning that can be applied in a hybrid learning model. Meanwhile, the design and development English App have been validated by experts that describe material validation at 88,5 % and media validation at 89%, which can be said that the product is valid and deemed to be implemented. The stage of implementation is conducted in seven meetings by hybrid learning. Furthermore, the evaluation stage indicates that the product has the feasibility to be applied in English learning due to the result obtained 80,6% (valid product). Hence, Mobile English App developed for college students to learn English has been successful in fostering students 'motivation and ability in General English Course.

Keywords: English, M-Learning, Innovation, Media, Hybrid

1. INTRODUCTION

In the flow of globalization, learning English is dealing with the issue of advanced technology and information, and the rise of creative industries is currently being experienced. Aminah (2022) stated that information and communication technology has indeed experienced a sharp increase. Besides, the process has also begun to penetrate various fields of human life, including education. The world of adult education entered the era of the media world, and the use

of technology and information plays an important role. Moreover, that technology is also needed to make the teaching and learning process more informative, creative, and innovative since the teaching and learning process in the classroom must take place in a fun and enjoyable way.

The use of technology in education is a breakthrough, especially in the management, evaluation, process, and source of its development, to be applied directly to daily learning activities. Technology helps students in a variety of ways: it helps them visualize concepts better, communicate with each other and with the teacher more effectively, make them more motivated, and learn a lot on their own. Nushi and Eqbali (2021) point out that among the technological innovations, mobile and hand-held devices such as smartphones, tablet computers, laptops, MP3 and MP4 players, and iPads are particularly helpful due to their practicality and popularity. In this case, Kuswanto et al. (2020) asserted that learning is needed for an educator capable of integrating information technology and communication in line with the developments of the times. The advancement of technology as a smartphone, could be one of the media and an alternative for teachers to facilitate the delivery of the subject matter to students.

Learners, teachers, content, environment, and assessment are basic mobile learning components. Cavus (2016) indicates that the most important features of mobile learning are portability, mobility, connectivity, flexibility, interactivity, context sensitivity, individuality, and accessibility. Mobile learning is the popular generation of e-learning. Due to new mobile devices with enhanced capabilities, such as high-density cameras, large storage capacity, large screen size, longer battery life, and high-quality voice processing, have increased the interest level of language educators, especially in English. Furthermore, Mobile devices increase motivation, make the learning process more interesting and enjoyable and help improve the learners' skills in a positive way. Using mobile devices in learning English as a second language gained positive feedback from both teachers and learners, provided more engaging learning environments, allowed collaborative activities, immediate feedback to students, close interaction for students, and increased learning performance.

With the development of technology, many new innovative innovations have emerged to the public with the presence of smartphones (Hadi, 2021). The use of smartphones in education is known as mobile learning (m-Learning) technology, and the use of m-Learning, according to (Martin, 2015), can positively contribute to students accessing learning materials or as learning media. According to Kurniati (2018), the speed of mobile technology development is increasing and penetrating all aspects of life, so this technology plays an important role in studying different dimensions of knowledge, including learning media. Learning through computers or e-learning allows learners to learn in a non-classroom environment while at home in front of their personal computers, online or offline. However, learning via mobile or m-learning allows learners to learn when they are on the bus, outside or at work doing their part-time job. They can learn every time and everywhere they are.

In the context of the development of technology, the English language has served as an important tool to speed up national development. The power to master the English language has become prominent in academia, research, and business. Based on Elaish (2019) argued that English is the language of the modern world. Apart from one's native language, one might need it at work to interact with English-speaking people from different cultures and travel to other countries.

Therefore, the dominant global use of the English language in the international academic community presents unique challenges for non-native English students.

In line with the paragraph above, Novia et al. (2021) stated that English is still a frightening spectrum for most students in Indonesia. Therefore, English learning with conventional methods is one of the causes of students' lack of motivation to learn English, which impacts their low English language skills. Quoted from the website of the world's largest ranking of English skills, students' English skills in Indonesia are still low. In 2018, Indonesia ranked 51 out of 88 countries worldwide (Islami, 2019). It is also strengthened by Purwani & Dewi (2021) confirmed that learning English at the university level is one of the general compulsory subjects. Although the English course is mandatory for all study programs, it is still one of the most difficult courses.

English has become a world language that dominates the communication era to connect and transfer knowledge worldwide (Zatulifa, 2018). The State of Indonesia has anticipated the requirement to be able to speak English both actively and passively to include English as a local subject. Teaching and learning English is a challenging process. This is because not all students understand English.

The importance of English mastery in all institutions forces the educator to provide the innovation of learning media suitable with the challenge of this era. Digitalization has spread out in all sectors, especially in Education. It is demanding that educators be able to synergize the process of modernization and quality of learning, then, there needs to be a paradigm shift in carrying out the learning process. This aims to improve the quality of learning and the quality of graduates (output) that can compete in this era of industrial revolution 4.0.

In relation to the background aforementioned above, the researcher attempts to design and develop an innovation of learning media based on M-learning for the English General Course. This Mobile English App learning media is designed so the learning process and application of digital technology can be implemented well in the class. Therefore, this app can be integrated with a hybrid learning model.

2. METHOD

In conducting this study, the researcher applies Educational Research and Development, which is a kind of research method that produces products for educational purposes, it is commonly familiar as the Research and Development (R&D) method. As Borg and Gall (2007) confirmed that Educational Research and Development is a research and design in terms of its aims to produce educational products such as curriculum, syllabi, textbooks, instructional media, modules, assessment instruments, and other products. Hence, this research employs the Research and Development method in designing and developing a Mobile English App as an innovation of learning media by integrating a hybrid learning model work system in the application-based mobile learning.

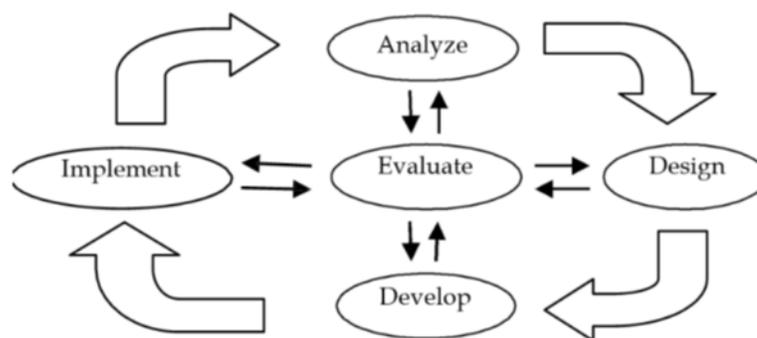


Figure 1. ADDIE Dick and Carey Model (Wibawa & Harimurti 2017)

This study uses the ADDIE model (figure 1) with five stages: (1) analysis phase; (2) design; (3) development; (4) implementation; (5) and evaluation. The stages of the ADDIE model in the figure above can be described as follows:

1. Analyze Phase

In the analysis phase stage, the researcher attempts to formulate problems, objectives and identifies the situation, skills, and insights from the research subject. In this step, the researcher conducts a need analysis of prospective research subjects. In gathering the data, two methods are required in this step, namely questionnaires and unstructured interviews. As Larson & Locke (2019) asserted, data collection instruments were used to obtain this information. Data collection instruments usually consist of questions. This analysis aims to obtain adequate information in designing and developing the Mobile English App. The information needed in this circumstance related to the student's interest in learning English, the variety of methods and media used in learning, and the difficulties encountered when studying and comprehending the material.

2. Design

Concerning the analysis stage, after obtaining adequate data, the researcher plans to carry out the research. The researcher attempts to select learning material, compile the required learning material, consult with the experts, make a framework for Mobile English App as the innovation of learning media, learn and share information with media maker applications, and make procedural plans during field testing. Hidayat (2021) in his journal argued that the design steps should be systematic and specific. Systematic means a logical and sequential method used to identify, develop, and evaluate, whereas specific means that the researcher carefully executes every design element in detail. In this stage, the researcher designs Mobile English App, including the application features, and selects the material, namely reading, listening, speaking, writing, grammar, vocabulary building, and pronunciation practice. Those materials are selected as proper topics learned in General English courses in college.

3. Development

After designing Mobile English App, the researcher starts assembling a product framework and creating a product planned at the design stage. In this stage, after a series of processes of expert validation, the researcher revised products according to the results of validation and the expert's feedback. Piskurich (2015) stated that feedback for revised material can be based on the evaluation of experts (curriculum experts, linguistic experts, media experts) as long as the individual has expertise in a field that is still related to research. After completing the revision process, the media 'mobile English App' is ready to be tested in the next stage.

4. Implementation

In this stage, the Mobile English app deems to be implemented in General English Course. Thus, there are three steps in the field of implementation. These include planning before product implementation, the technical implementation of the product, and post-implementation of the product. Relating to the steps, in the first step, the researcher considers several plans that pay attention to determining time, consulting with relevant experts, and preparing the instrument of data collection. While in the second step, the researcher executes the planning abovementioned, and in the last step, the researcher distributes questionnaire sheets as product feedback.

5. Evaluation

The last step in this method evaluates the product by discovering and drawing a conclusion. In this case, there are two types of evaluation. As Larson (2019) stated, formative describes each chronology in the ADDIE process, while summative is an evaluation carried out after the product is applied. Hence, the researcher evaluates both formatively and summatively. Formative evaluation describes each step of the research as discovering and evaluating it. Then a summative evaluation, the researcher makes an overall overview of discovering and concludes the research that has been conducted. This step also decides the eligibility of the media. The results of each validator use a percentage in table 1.

Table 1. media feasibility criteria

Percentage (%)	Qualifications	Equivalent
80-100 %	Valid product	Proper
60-79 %	Quite valid product	Quite proper
30-59 %	Not valid product	Less proper
0-29%	Invalid product	Improper

3. RESULT AND DISCUSSION

The extent to which English App-based M- learning as an innovation of learning media for the visual communication design program could improve college students' motivation and English ability at Billfath University. As previously clarified, this research was carried out in five stages:

Analyze phase, design, development, implementation, and evaluation. Each stage takes several times its process, and a collaborator aids it. General English mastery problems experienced by college students were meant to be solved. In order to overcome the students' motivation and English ability problems, the researcher attempts to develop English App-based M-learning as an interactive media. Furthermore, the result of each stage of developing a Mobile English App is as follows:

RESULT OF THE ANALYSIS PHASE

In line with the researcher's observation, the problem in English learning is that students need adequate material and proper media to learn English outside the classroom. Learning in their class is still using conventional lecture and media methods. It affects the results of learning which shows that there are still many students with low values. Based on the result of analysis obtained in college students of the University of Billfath, the information obtained through the questionnaire as follows:

Table 2. result of need analysis through questionnaire

No	Questionnaire aspects	Score
1.	Barriers of Learning English	193
2.	The use of learning Media	170
3.	Barriers to hybrid learning	151
Total Score		514

In summing up the result, the research elaborates by following the Likert scale:

No	Criteria	Percentage (%)
1.	Disapproved	0% - 32.99%
2.	Neutral	33% - 65.99%
3	Approved	66% - 99.9%

Following the table above, the researcher calculated it as follows:

$$P = \frac{f}{n} \times 100\%$$

Max score: 3×10 (question) \times 24 students: 720

Percentage: $514 / 720 \times 100\% = 71,3\%$

From the drawing analysis, it can be concluded that 71,3 % of students are required to learn media for college English courses, which the hybrid learning model can apply. The students need specific learning media to help them enjoy learning English. It will be monotonous and boring if the lecturers lack creativity in delivering the material and less mastering English teaching methods. As a result, as explained above, it shows that lack of classroom time has also become a problem for students in learning and engaging in English. The most effective way to learn it is by providing a sufficient portion of practice for students. Moreover, in a post-pandemic era that demands the

education system shift into digital form. Hence, the learning media that can be applied in a hybrid learning model is required in recent times.

RESULT OF DESIGN AND DEVELOPMENT

After gaining the need analysis, the researcher processes the data into the design stage. The researcher starts by collecting, selecting, and designing English material then consulted with the material experts and other lecturers in affiliated institution. During the process of designing the material, the researcher made gradual changes and adjustments. It should be carried out to adjust material with basic and core competencies in the independent curriculum.

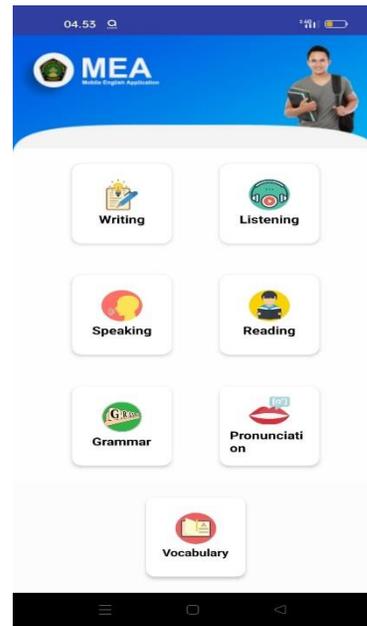
The researcher divides the topics needed to foster English skills in designing English materials. The materials focus on language skills, including writing, speaking, listening, and reading. It was also completed with materials related to grammar, vocabulary building, and pronunciation practice required by college students in deepening General English Course.

In this description, the researcher executes the plan designed in the previous stage. In the design and development process, the researcher recognizes several softwares that are applicable for developing Mobile English App, such as Adobe Illustrator CS6, Adobe Photoshop CS6, and Kodular Creator APK. The result of the Mobile English App can be installed on all types of mobile phones. The display Mobile English App media icons as follows:

Figure 2. intro menu display



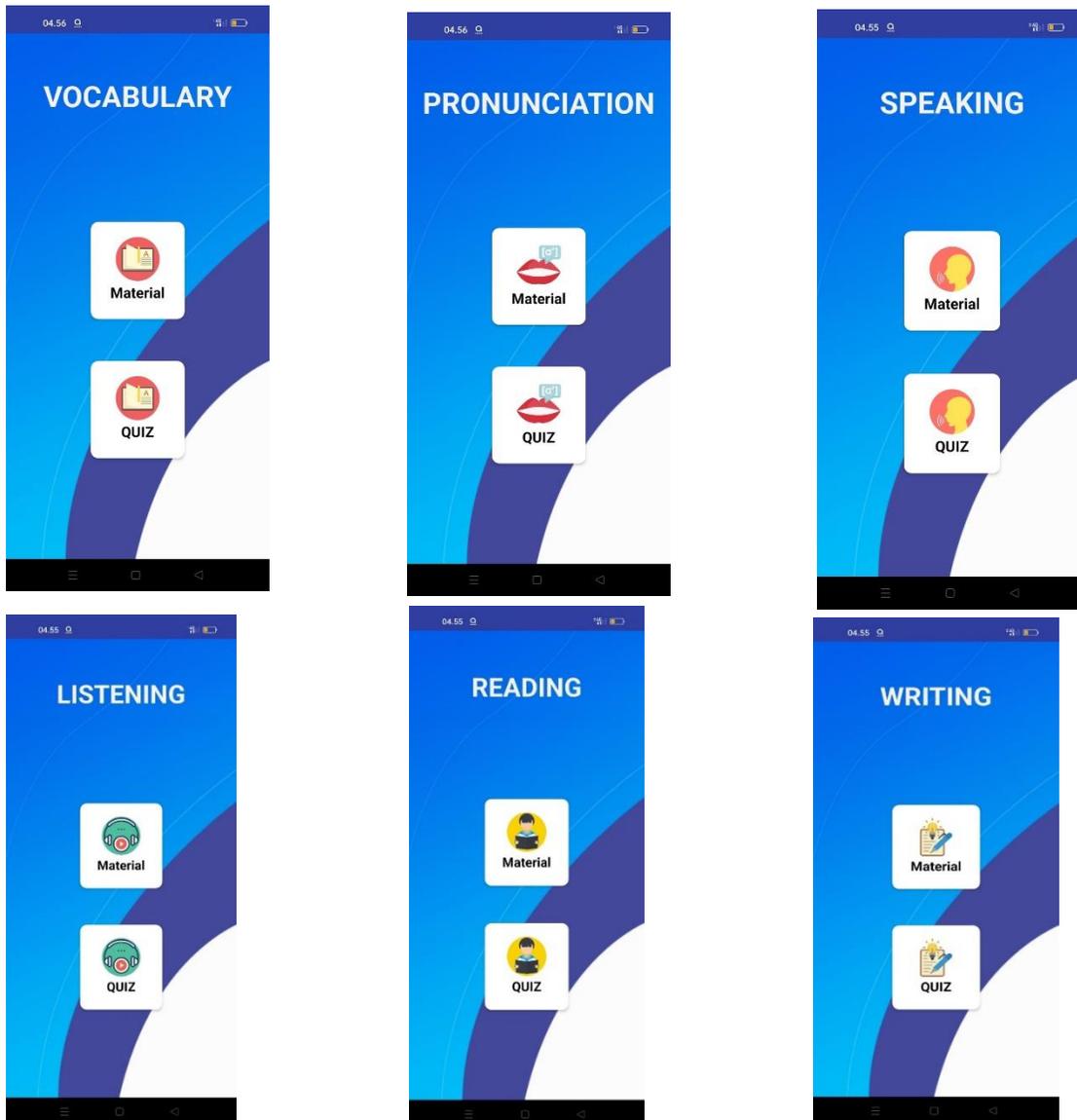
figure 3. Menu material display



The intro page has an access button to log in to the next menu. The start button is used to enter the main page of the English App-based M-learning media. The intro menu page can be seen in Figure 2. That page attaches the Universitas Billfath logo because this app is still used only for students of Billfath University. Further can be developed more so that it can be applied to all college students who want to learn English deeper.

On the next page, there is access to a material menu containing selected materials completed by some quizzes to measure the student's understanding of the delivered material. Each topic consists of 2 or more materials, such as vocabulary-building topics containing part of speech, synonyms and antonyms, homophones, homographs, and homonym materials, and then each material includes an exercise. It can be seen in the following figure:

Figure 3. main menu display



Furthermore, after developing English App is completed, the next step is to have the app is ready to be validated by experts. In this case, there are two kinds of validation: material and media. Here is the result of both material and media validation as shown in the following table:

Table 3. Result of Material Validation

No.	Aspect	Score
1.	Learning Design	10
2.	Display	12
3.	Material	17
4.	Content	15
Total score		54
Percentage (%)		88.5 %
Category		Valid product

Following the material validation above result, developing material in the Mobile English App can be categorized as a valid product. The completed material and core competencies of the Independent curriculum adjust it even though there are still several revisions from the expert that should include many more exercises. Further, the researcher adds some exercises to complete the proses of material evaluation.

It is continued by media validation conducted by the expert related to the institution. The result gained as follows:

Table 4. Result of Media Validation

No.	Aspect	Score
1.	App Design	17
2.	Visual	15
3.	Audio	9
4.	Features	14
Total score		55
Percentage (%)		89 %
Category		Valid product

The table above indicates that the media has been feasible for students in teaching-learning. However, some faults in designing this app are still discovered, so the feedback and suggestion from the experts really benefited the researcher in completing this learning media.

RESULT OF IMPLEMENTATION AND EVALUATION

Relating to the previous stages, Mobile English App is implemented in the teaching-learning process of college students who take the General English as a compulsory course in university. In this research, just taking one class population, which includes 24 students. This implementation is conducted for seven meetings before the midterm test. In the last of the implementation stage, the researcher gives a questionnaire to gather data on the English App feasibility based on students' experience during implementation. Here is the following questionnaire distributed by the researcher:

Table 5. Result from questionnaire

Aspects	Items	Score
Content	1	96
	2	90
	3	96
	4	89
	5	98
Design	6	82
	7	80
	8	76
	9	78
	10	65
Audio	11	62
	12	65
	13	60
	14	61
	15	56
Features	16	75
	17	87
	18	74
	19	81
	20	88
Personalization	21	75
	22	64
	23	78
	24	68
	25	79
Total Scores		1.936

RESULT OF EVALUATION PHASE

This is the last stage of the procedure in developing the Mobile English App as the innovation of learning media. In this part, the researcher provides two kinds of evaluation,

formative and summative, elaborated on the previous method. Formatively, the evaluation phase has been elaborated on each step of this development. In addition, formative evaluation is provided here in the result of implementation. This part presents the conclusion of the evaluation of the result of the implementation questionnaire as follows:

Table 6. Result of the implementation questionnaire

No.	Aspect	Score
1	Content	474
2	Design	389
3	Audio	304
4	Features	405
5	Personalization	364
Total Score		1.936
Percentage (%)		80,6 %
Category		Valid Product

As the calculation above, based on the implementation questionnaire result, it shows that the Mobile English App has been feasible to be implemented in the class. Then, summative evaluation presents the overall result of the research conducted. Based on the implementation phase, 24 students who participated in this research responded on some aspects. The result achieved 80,6 %, which is categorized as a valid product. Hence, this product has been successful in increasing students' motivation and ability to learn English.

4. CONCLUSION

Regarding the results of the discussion above, English learning is always considered difficult and boring for students, and it can be very fun, depending on learning media. One way is to utilize existing technology that is very familiar to the students with the use of media applications on the mobile phone. This research and development have succeeded in designing and developing English language learning media for college students of Billfath university. The media feasibility test results show that all components of the app can run according to its function. Based on the procedure of developing the English App that has been obtained, it points out that analyze phase found 71,3 % of college students require specific learning media-based M-learning that can be applied in a hybrid learning model. At the same time, the design and development English App have been validated by experts describing material validation at 88,5 % and media validation at 89%, which can be said that the product is valid and deemed to be implemented. The stage of implementation is conducted seven meetings by hybrid learning. Furthermore, in evaluation stage indicates that the product has been feasibility to be applied in English learning due to the result obtained 80,6% (valid product).

Making learning media by utilizing technology is one of the revolutions in the field of education, especially in the era of the industrial revolution 4.0. Development and manufacturing of media by

utilizing technology will certainly be even better if educators can develop independently, meaning that educators must be able to master software that can be used as a tool for making media, or by holding training and assistance in making learning media by utilizing technology with the expectation of mastery about software will be better which has an impact on the independence of educators in making instructional media in the era of the industrial revolution 4.0

The researcher suggests to the educator of English subject that learning English should not be glued to the existing textbooks only; use the media if not boring and familiar with the daily life of students who are certainly associated with technology because the media use technology will be more varied and fun.

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