Development of MySimB’: A Motivational Aspect

Nur Sukinah Aziz, Azliza Yacob, Noor Suhana Sulaiman, Wan Nur Idayu Tun Mohd Hassan, Saadiah A Rahman, Nur Liyana Zakaria

Faculty of Computer, Media & Technology Management, University College TATI, Teluk Kalong, 24000 Kemaman, Terengganu, Malaysia. 

azliza@tatiuc.edu.my

Abstract. Simpulan Bahasa is one of essential learning subject in Malaysia. Most students learn Simpulan Bahasa by reading books, which considered as normal/manual practice. If student intent to search Simpulan Bahasa, student have to search through books as the dictionary of proverb. It is however quite ancient and sometimes burdensome for student to bring the dictionary. According to this matter, MySimB’ was developed through mobile learning using ADDIE methodology. The development of MySimB’ intention is to help primary school student to learn a standard Malay Simpulan Bahasa easily and effectively. MySimB’ is interactive website which was developed to ease learning and interactive medium for student, teacher and parent to learn or teach Simpulan Bahasa. MySimB’ provide index using alphabetic, meaning and an example of sentence for each Simpulan Bahasa, searching and learning games to attract student in Simpulan Bahasa learning.

1. Introduction

Simpulan Bahasa or an idiom is a short word or set of words formulated in a specific order that carries a specific meaning. The meaning is obtained from what is implied or hidden not from what is implicit or real. The Simpulan Bahasa is utilized normally in essay and conversation, which are included in Bahasa Melayu subject. Bahasa Melayu subject is one of the essential learning subjects in Malaysia. In primary school student, Simpulan Bahasa were introduced as one of the Bahasa Melayu syllabus revealed to student as in early Standard 3. This topic is important because it can uphold the Bahasa Melayu proverb. In purpose to boost understanding of Simpulan Bahasa, MySimB’ were developed according to the difficulty of the primary school students to learn Simpulan Bahasa. It was found that the contents for Simpulan Bahasa were included in the level one syllabus for primary school students. Manually learner or primary student can refer the meaning for Simpulan Bahasa through physical dictionary. It is however quite ancient and sometimes burdensome for students to bring that dictionary. Even though it can be referred easily online, the material or apps to refer by learner are not easy to get, in fact they are equipped with a mix of various languages. For the purpose of academic, an official Simpulan Bahasa really needed by learner to fulfill the curriculum. On that basis, a mobile app has been developed with the objective to help primary school student to learn a standard Simpulan Bahasa.
This paper is organized as follow: Introduction in Section 1 and Section 2 presents the related studies which contains learning motivation and mobile learning. Section 3 discuss about Research Methodology continued with section 4 which includes Result and Discussion. Finally Conclusion will be presented in Section 5.

2. Related Studies

2.1. Learning Motivation

Motivation is a goal-oriented process, which in turn drives people to do something. It involves biological, emotional, social, and cognitive forces that activate behaviour. In the learning process, strong motivation allows students to focus on a task for the long term as well as a target to be achieved. Motivation also can be used to enhance the strength among learners. According to Azliza [1], assessing motivation has been an important aspect for researchers to understand the operation of motivational processes and to find ways for the purpose to optimize students’ motivation.

2.2. Mobile Learning

Learning technology is about technological tools, information and communication that use for better learning, teaching and assessment. In this context, computer-based learning or multimedia materials may use to provide in-class activities. This technology can be a teaching aid which employing sight or sound to manifest information, for example films, videos, motion pictures, slide projectors, language tapes, multimedia games. According to [2], the use of new technologies purposely for learning has impacted effectiveness which contributes to the smoothness of teaching and learning performance. Thus, mobile learning has been shown a big potential for the purpose of teaching and learning.

Mobile learning or m-learning is a new way to access learning content using mobile devices. It is possible to learn whenever and wherever user wants, while mobile device connected to the Internet. In particular, applying mobile learning (m-learning) in education is becoming increasingly popular, as it provides an interactive learning experience for learners. The increasing number of mobile devices user, opens up a big opportunities the use of mobile technology for the purpose of teaching and learning. Several advantages highlighted within the field are the benefits of mobility and flexible learning (ease of access). Another m-learning motivation is iPilot. iPilot initiative provided iPads to pilot undergraduate students programs in duration of two years period. Students survey reporting that the use of iPads in education improved their digital literacy. Students were also being positive on the use of iPads in learning. Furthermore, in comparison to non-iPilot students, the students suggested that they were more likely to access learning using m-learning. Thus, the technical features embedded within mobile devices are useful for learners [3].

From literature review, it was found that this type of learning method have been implemented in various subject including mathematic, programming, physic, English, Malay language and forestry education [2], [4]–[9] And the most importantly the feedback on the implementation of mobile based learning is very interesting.

In MySimB’, m-learning embed the responsive design while user accessing the content. Responsive design for m-learning courses is suitable for any course in order to access to from any mobile device or browser. Responsive design design should responds to whatever mobile device or browser is being used to access it. Responsive design blends itself as if specifically created for the tablet or smartphone the user is on. The screen size will shrink or expand to provide the best possible view, images may shift and navigation options may change. All of this is intended to create the best possible user experience, which is why responsive design in mobile learning is essential. Design
elements such as text blocks, images, and videos can be displayed without any problem. Responsive design can offer a wide range of benefits for the m-learning course, as follows:

• Provides an accessible mobile learning experience
• Increased audience reach
• Reduces costs
• Improves accessibility
• Easily maintain

3. Research Methodology

The development of this educational mobile app or MySimB’ was conducted according to ADDIE methodology. It consists of five main phases which are analysis, design, development, implementation and evaluation phases as depicted in Figure 1. The elaboration of each phase is as following:

![ADDIE Methodology](image)

Figure 1: ADDIE Methodology

3.1. Analysis Phase

MySimB’ have been developing based on the need of primary students to learn a type of *Simpulan Bahasa*. It was included in the curriculum for primary school students. The analysis phase clarifies the instructional problems and objectives. Also identifies the learning environment and learner’s existing knowledge and skills. All the important information needed in application development is collected and recorded as a requirement specification document. Information collected from all sources includes interviews with users, online, articles, journals, and online databases. Among the key activities in this phase are discussions and blending ideas about end-user characteristics, defining scope and project timeline and also budgeting.
3.2. Design Phase

Design phase is a step to draft or sketch the idea for a good product. This phase deals with learning objectives, assessment instruments, exercises, contents and also subject matter analysis. The design of the software is very sophisticated, not only about interface design but the whole process in software design. This phase also requires explicit attention to decisions in architectural assessment, utilizing checklists to avoid bias, making reflective questions during architectural design.

MySimB’ have been design through a simple instructional guidance and exercise for students to learn Simpulan Bahasa. Through this stage, a sample of Simpulan Bahasa from A to Z alphabet was add, together with the meaning. To develop a good application, all the Simpulan Bahasa that were used in this mobile apps, previously referred to the Kamus Peribahasa. It was done just to make sure that all the contents are ideal and can be referred by all students, especially Malaysian.

This is also an early stage for designer or instructional designer to sketches the entire important page purposely to build up a good app for Simpulan Bahasa. It includes the pages for a sample of meaningful Simpulan Bahasa from alphabet A to Z, a page with an amoji exercise which is called Teka Emoji, a page for searching and lastly, a page for a type of games called Teka Simpulan.

The designs also were added with meaningful learning and motivational principles have been all incorporated into the design. Meaningful learning states that each page of the apps must have a direct and clearly instructions. It was designed purposely to helps students in understanding what he or she must do. Besides, the motivational aspect that suit for primary school students, also was taken into consideration to keep them learn. Among the criteria used to gain their attention to learn are the factors of the apps design, the color used, multimedia criteria and level of interactivity. All these factors are included during the design phase of MySimB’ to ensure the convenience and smoothness in the next phase.

3.3. Development Phase

In development phase, the developer creates and assembles content assets blueprinted in the design phase. It starts with developing motivational interface for all pages to gain students attention. According to Keller's ARCS motivational theory, attention is essential to learning and can be considered the backbone of the ARCS theory. For the purpose, design software called Adobe Illustrator CC & animate or flash were used by the designer to design the interface. Meanwhile for the web site development, Adobe Dreamweaver software were used with Java scripts andCss as a language. In this stage, suitable motivational criteria as mentioned previously in design phase were applied. Refer to Figure 2 for the welcome interface of MySimB’. While learner get ready to start the learning, the interface will be displayed as Figure 3 which also can be seen as a main page for MySimB’ with a brief description and icons for view, search and game learning module.
Figure 2: Welcome Interface of MySimB’

Figure 3: Information page of MySimB’
For the first module called *Simpulan Bahasa*, there are over 500 *Simpulan Bahasa* starting with A to Z alphabet which can be viewed by user, as Figure 4.

![Figure 4: Sample of *Simpulan Bahasa* for A alphabet.](image)

Also in second module, learner can do some searching called *Carian*, as Figure 5. By using this *Carian*, the meaning for any given *Simpulan Bahasa* will be displayed, together with a simple example.

![Figure 5: Searching page of MySimB’.](image)

For the third module, which is learning games, there are two types of games developed which are *Teka Emoji* and *Teka Simpulan*. In *Teka Emoji* module, users have to guess what is correct *Simpulan Bahasa* based on the pictures given, as in Figure 6.
Meanwhile, for *Teka Simpulan*, user needs to understand the sentences given and need to choose the correct *Simpulan Bahasa* from listed answer. Figure 7 shows an objective answers with four options to be select by the learner.

**4. Result and Discussions**

MySimB’ is easy to learn lessons by seeing, experience and teaching to others. In fact obtaining all of the senses in forms of conventional learning (without using new technologies) is far difficult to reach. All contents of MySimB’ are related to the educational aim which are: (i) Content is designed according to the characteristics and tools of e-learning; (ii) The factors affecting education is considered, and (iii) Using multimedia such as: voice, picture, text etc. have a crucial role in presentation of the lessons.

Materials and equipment of training in the form of MySimB’ also can have a supportive and simplifying role in teaching-learning process, such a facility of effective relation between student and
lessons using sight, and continuation of keeping student interested in subject. MySimB’ also employ color variety, causes motivation and attention in students and makes educational materials seem more realistic [10]. Colors can also be used to group related information together. Proper use of colors in MySimB’ also accelerates reviewing and makes it easier. My SimB’ adapt the instructional materials through a combination of visual (such as texts and graphics) to deliver the benefit of MySimB’ which are [11]:

a) Learning theory of mind; This is based on these assumptions:

- Humans have separate channels for processing verbal and visual materials,
- Each of these channels can process a limited amount of information at any given time
- Students seriously try to build visual and verbal models by the presented materials and the relation between them.

b) User understands the materials better, when they are fully engaged in the process.

Presenting a content using words and images make learners’ mind more active, learners try to establish a relationship between the words and the images. Using the words solely can encourage students (especially learners who are less experienced) to learn superficially and learners would not be able to communicate between their prior knowledge and new contents.

5. Recommendation

In future, Augmented Reality (AR) can be employ into MySimB’, since AR as an educational medium is becoming increasingly accessible to young students at elementary school and professional learners alike. It is a new medium, combining aspects from ubiquitous computing, tangible computing, and social computing. This medium offers unique affordances, combining physical and virtual worlds, with continuous and implicit user control of the point of view and interactivity.

6. Conclusions

Education website, including m-learning of mobile technology usage, became an integral part of the lives of most teachers and students in all over the world. All these items have transformed the way of learning channel. This study propose an educational web and can be open in mobile technology, focusing on Simpulan Bahasa content with educational ontology and multimedia technology to teach student in an attractive way. Student can search keyword or use by index. Advantages of MySimB’ as it can engage students in the learning process, improve their achievement and increase their motivation towards Simpulan Bahasa.

References

[1] A. Yacob, “Learning Motivation for Computer Programming Course,” pp. 1–3, 2015.
[2] C. M. Sung, M. Ahmad, N. R. Mansor, R. A. Rashid, and N. A. C. Abdullah, “The Effectiveness of Mobile Application in Learning Malay Foreign Language,” J. Phys. Conf. Ser., vol. 1529, p. 042064, 2020, doi: 10.1088/1742-6596/1529/4/042064.
[3] M. Uther, “Mobile learning—trends and practices,” Educ. Sci., vol. 9, no. 1, pp. 10–12, 2019, doi: 10.3390/educsci9010033.
[4] A. Hendrayana and Wahyudin, “Mobile learning to improve mathematics teachers mathematical competencies,” J. Phys. Conf. Ser., vol. 948, no. 1, 2018, doi: 10.1088/1742-6596/948/1/012049.
[5] N. Farahah Abdul Halim and D. Nincarean Eh Phon, “Mobile Learning Application Impact Towards Student Performance in Programming Subject,” *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 769, p. 012056, 2020, doi: 10.1088/1757-899x/769/1/012056.

[6] S. Tereshchenko, M. Zagorskaya, O. Polyanskaya, and J. Bobritskaya, “Mobile learning in forestry education,” in *IOP Conference Series: Earth and Environmental Science*, 2020, doi: 10.1088/1755-1315/507/1/012031.

[7] A. Bahauddin and W. Setyaningrum, “Teacher’s and prospective-teacher’s perceptions of mobile math game ‘proadventure’ implementation in mathematics learning,” *J. Phys. Conf. Ser.*, vol. 1320, no. 1, 2019, doi: 10.1088/1742-6596/1320/1/012080.

[8] I. A. D. Astuti, D. Dsmao, N. Nurullaeli, and I. B. Rangka, “The impact of pocket mobile learning to improve critical thinking skills in physics learning,” *J. Phys. Conf. Ser.*, vol. 1114, no. 1, 2018, doi: 10.1088/1742-6596/1114/1/012030.

[9] W. Kusmaryani, B. Mustafa, and P. Purunawarman, “The influence of mobile applications on students’ speaking skill and critical thinking in English language learning,” *J. Phys. Conf. Ser.*, vol. 1193, no. 1, 2019, doi: 10.1088/1742-6596/1193/1/012008.

[10] B. Khandaldel, K. Ali-Abadi, D. Nourozi, and A. Kasaeian, “Investigating the Effect of Color in Educational Films on Learning,” *Knowl. Heal.*, vol. 3, pp. 30–34, 2008.

[11] R. C. Clark and R. E. Mayer, “E-Learning and the Science of Instruction,” in *3rd ed., San Francisco: Pfeiffer*, 2011.