Volume: 2 Issues: 4 [March 2019] pp.24-30]
International Journal of Heritage, Art and Multimedia
eISSN: 2600-8262
Journal website: ijham.com

DESIGN AND DEVELOPMENT OF CUTE CLASSROOM: LEARNING THREE LANGUAGES

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Accepted date: *01-09-2018*
Published date: *10-03-2019*

To cite this document: Shaari, N., Othman, A., Ow, S. J., & Wong, S. C. (2019). Design and Development of Cute Classroom: Learning Three Language. *International Journal of Heritage, Art and Multimedia*, 2(4), 24-30.

Abstract: *Current technologies such as mobile devices and applications have great influences on people, especially children. It also affects teaching and learning processes. While traditional and conventional learning styles are considered boring to children nowadays, modern learning environment that exploits the use of mobile and smart applications and devices are being widely accepted. It can be used to assist students in their learning environment including learning languages. In response to that this paper introduces an interactive multimedia application to learning three languages (Malay, Mandarin, and English) for Malaysian standard one student and beginners of the languages. A user-centred design methodology was adopted to design and develop the learning application. A pilot usability test conducted shows that the application is a success.*

Keywords: *Interactive Application, Multimedia, Learning, Educational Application, Languages*

Introduction

Education and modernization are closely related to each other. Modern technologies have great potential to enhance the learning of students and increase their productivity (Selvam, 2013). Integrating technology into the classroom is definitely a great way to reach diversity in learning styles. Integrating technology in everyday education helps students to stay engaged. Today's students love technology and they are surely to be interested in learning if they can use the tools they love (Sessoms, 2017).

Cute Classroom: Learning Three Languages (CCL3L) is an interactive learning application that teaches students to learn three languages which are Malay, Mandarin, and English. CCL3L focuses on Malaysia's standard 1 students and beginners who wish to learn the three

languages (Malay, Mandarin, and English). Our main purpose is to develop an easy to use learning application to enhance Standard 1 student's interest in learning three languages in Malaysia. The content of this learning application follows Standard 1 syllabuses (Malay, Mandarin, and English) by the Malaysia Ministry of Education. CCL3L can also be used by parents and teachers to teach children to learn the three languages.

CCL3L provides pronunciation, interpretation, and phonetic transcription of words. The application contains categories such as body parts, colours, family, numbers, and shapes. It provides quizzes to test students understanding. In addition, nursery rhymes are also included to let students learn the words from the lyrics in the video. According to Backer (2016), the most popular theory linking music and cognitive performance is the 'Mozart effect', the popular idea that listening to Mozart makes people smarter. So, based on that, there is a belief that music, through nursery rhymes, can help students to enhance their memory and memorization of words. According to Geiger (2014), nursery rhymes are important for children because nursery rhymes are the perfect first stories for them. The bouncy rhythm catches their attention, and the short length means parent could finish a rhyme before children grab it. Besides, nursery rhymes can also boost early language development for children and children who listen to nursery rhymes builds vocabulary for them.

This paper introduces Cute Classroom: Learning Three Languages, an interactive educational application that integrates technology and learning. It describes the design and development of CCL3L and its impacts on users' perception through a usability study.

Literature Review

Today's modern life is surrounded with various technologies and products. Most children are addicted and dependent on technology such as smartphones and mobile devices. According to Rowan (2013) children now rely on technology for the majority of their play, grossly limiting challenges to their creativity and imaginations, as well as limiting necessary challenges to their bodies to achieve optimal sensory and motor development. The addiction and attraction to the technology such as mobile applications and devices, thus, can be exploited for a positive cause for children – engaging them in learning.

Kennison (2014) found that children all over the world have the remarkable ability to learn any language that they hear on a daily basis. Hariry (2015) stressed that convenience of technology can be used to improve proficiency base and revise information of students which strengthen them to use learning application in learning the language. Wang & Smith (2013) found mobile-assisted learning led to positive attitudes and was acknowledge by students that it is competent to improve their reading skills. Rahamat, Shah, Din, & Aziz (2017) indicated that integrating learning application in languages encourage teachers to teach students by using mobile devices application.

Mobile devices application is fundamental in a learning environment where the impact can transform the way of learning. Learning application will transform teacher's role where it will transform the use of conventional 'chalk-and board' teaching with the use of current technology using mobile devices such as computer or smartphone (Ally, 2013). Students have the freedom to learn languages without the restriction of time and place thus, increase their learning performance (Elfeky & Masadeh, 2016). For example, students have the flexibility to learn with portable mobile devices at any time and anywhere.

Santosh (2013) stated that using multimedia in the classroom helps educators engage students and provide them with valuable learning opportunities. There are no doubts that educators consider multimedia as a great tool to improve students learning. Exploitation of multimedia in the classroom can provide students with suitable learning resources according to their

learning styles and abilities. Multimedia resources make everything easy for students to learn in their comfortable learning style. Unlike traditional approach in which only the teachers lead the entire classroom, delivering long lectures at the same pace, the use of interactive multimedia application offers personalization of learning – students can learn at their own pace and iterate the process as often as they like.

Method

In this project, User Centred Design (UCD) methodology (McCracken & Wolfe, 2004) was adopted as communicating and working directly with the users at key points in the project can ensure that the project is delivered following their requirements (Teoh, 2006). In UCD method, every phase is centered on the users and is highly iterative. Users are consulted in every phase of development.

Analysis – Requirements Gathering

First, in analysis phases, we did a comparative analysis of existing language applications to compare their features, strength, and weaknesses. We also surveyed and interviewed standard one student, parents, and primary school language teachers to gather their requirements for the application. From the comparative analysis, survey and interview, we come out with a list of requirements and features for CCL3L application. The list was discussed with the users for their feedback. After a couple of iteration, we finalized that CCL3L should:

- Follows Standard 1 syllabus by the Malaysia Ministry of Education.
- Exploits the use of multimedia elements (animation, audio, graphic, text, and video) and interactivity
- Provides the same content for the three languages (with an exception to the nursery rhymes)
- Provides pronunciation of words and shows the step to write the words for all three languages.
- Provides examples of words in text and picture.
- Provides different category of words (body parts, colours, family, numbers, and shapes).
- Provides nursery rhymes videos.
- Provides two types of quizzes (Flash Card and Listening).

Based on the requirements, we identified the concept of the application. All five multimedia elements are used in CCL3L in order to produce an easy to use and useful application. Audio is used to provide pronunciations of words so that users can listen and learn the pronunciation of the words. Animation is used to animate the writings of. Video is used for the nursery rhymes and graphics to present visualization of objects and words. The use of multimedia elements in this learning application aims to enhance students' interest in learning languages.

Design

Next, in the design phase, the concept and flow of the application were translated into a storyboard so that users could get ideas of the look and feel of the application. We showed the storyboard to the users – students, parents, and teachers - for their feedbacks and based on the feedback the storyboard was revised and modified. The process was iterated a few times until the final agreed version of storyboard was produced.

Prototyping

Next, in the prototyping phase, following the storyboard, the application was translated into a high-fidelity prototype using Adobe Audacity, Adobe Photoshop, Adobe Premiere Pro, and Adobe Flash. Adobe Audacity was used to edit sound; Adobe Photoshop to design and edit pictures and text; Adobe Premiere Pro to edit the nursery rhymes videos. Lastly, we used

Adobe Flash to develop the Cute Classroom: Learning 3 Languages (CCL3L) application. Figure 1 shows the main page of CCL3L.

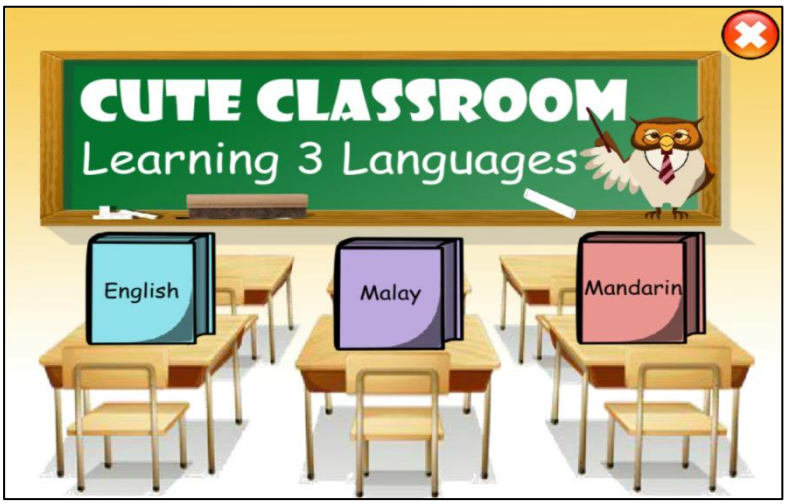

Figure 1: The Main Page of Cute Classroom: Leaning Three Languages

This page allows users to choose which languages (English, Malay, or Mandarin) they want to learn. For example, if users choose English, the page will proceed to the English version of "Content" page. Besides that, it also allows users to click the 'Exit' button in order to exit the application. When users click on the 'Exit' button, it will pop up a confirmation message. Figure 2 shows the Content pages for English, Malay, and Mandarin.

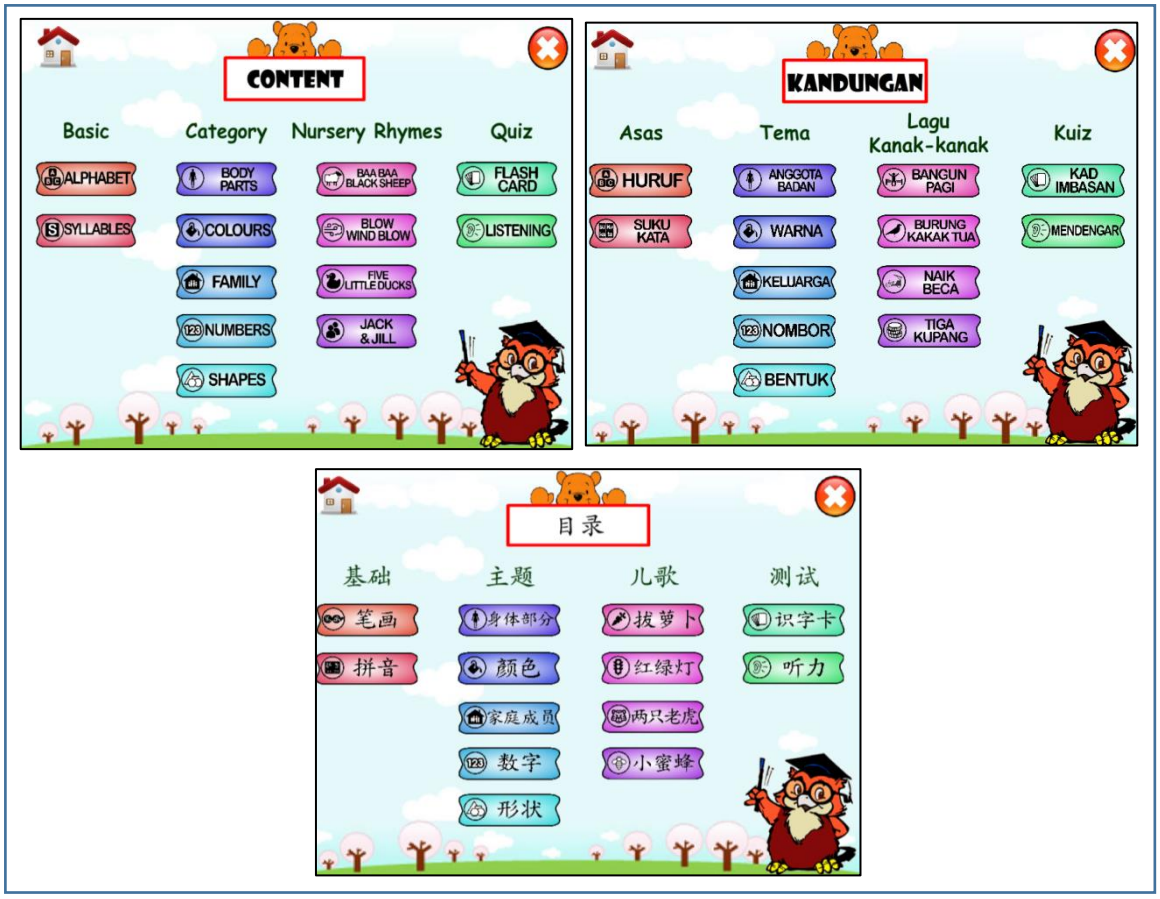

Figure 2: The Menu Page for Each Language

There are four equal modules (Basic, Category, Nursery Rhymes, and Quiz) for each Language (the same, with the exception to the nursery rhymes module). In this page, the 'Home' button is provided for users to navigate back to the main page. Each module provided a different type of learning content. Figure 3 shows the English version of Alphabet page when 'Aa' is chosen.

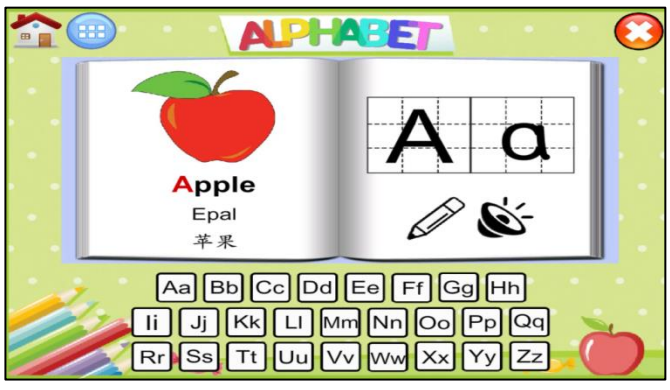

Figure 3: Alphabet page for English Language

The 'Alphabet Keyboard' allows users to choose the alphabet. Clicking the 'Pencil' button will show the animation of writing the alphabet; clicking the 'Speaker' button will play the pronunciation of the chosen alphabet. To ensure that users can learn and understand the three languages, examples of words in the other two languages are also provided; such as for 'Aa'

– that illustrates Apple in English, the meaning in Malay and Mandarin are also available. The same concept is also applied to other modules under 'Category' module.

Next, Figure 4 shows the content of the Body Parts page. In this page, each body part is a hot spot. Clicking on any body part will pop up word for the part. For example, when users click on 'Eye', this page will pop up the information of the eye.

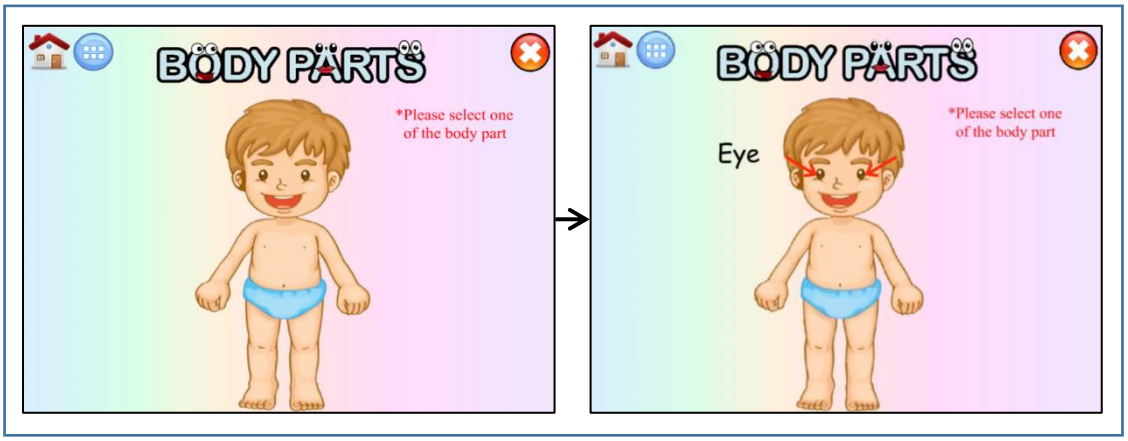

Figure 4: Examples of Body Parts page

Figure 5 illustrates the look of Flash Card page of the Quiz module when the correct answer and a wrong answer are chosen. This page requires users to click on 'Alphabet Keyboard' button in order to choose the answer.

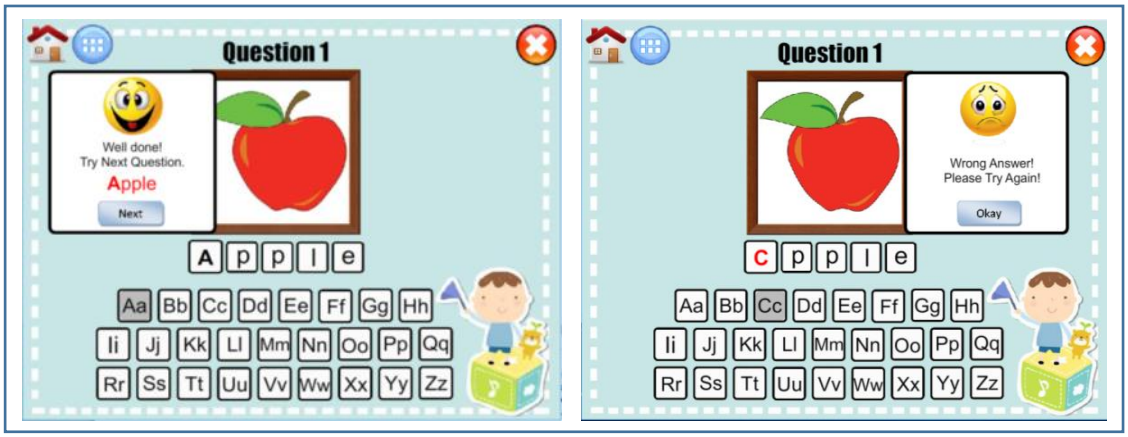

Figure 5: Examples of Flash Card Quiz Page

Measure

In Measure phase, we evaluated the prototype through a pilot usability testing with actual users. Voluntary users, 60 respondents – students, parents, and teachers – were involved in the test. Users were given time to use CCL3L application prior to answering a set of usability questionnaire. The result shows that 96.7% of respondents think that this learning application is fun to use. 98.33% of the respondents think that this application is easy to use and simple to use. All 60 respondents think that they would recommend this learning application to their friends and are satisfied with the overall of this learning application. Respondents also feel the need to have the application – they actually requested for a copy of CCL3L.

Conclusion

Cute Classroom: Learning Three Languages is a learning application that teaches students to learn three common languages in Malaysia which are Malay, Mandarin, and English. A UCD method was employed and the design and development of CCL3L were discussed. A pilot usability test has been conducted, which reveals that in overall, the application receives positive feedbacks. The application manages to attract students in using it to learn the three languages. Parents and teachers are also interested to use this application to teach their children or students in learning three languages. In short, this Cute Classroom: Learning Three Languages application has a promising future.

References

Ally, M. (2013). Mobile learning: from research to practice to Impact Education. Learning and Teaching in Higher Education: Gulf Perspectives, 10(2).

Backer, M. (2016). How music could help you to concentrate while studying. Retrieved from Independent: http://www.independent.co.uk/student/student-life/Studies/how-music-could-help-you-to-concentrate-while-studying-a6907341.html

Elfeky, A. I., & Masadeh, T. S. (2016). The Effect of Mobile Learning on Students' Achievement and Conversational Skills. International Journal of Higher Education, 5(3), 20.

Hariry, N. A. (2015). Mobile Phones as Useful Language Learning Tools. European Scientific Journal June 11(16).

Geiger, A. (2014). Why kids need nursery rhymes?10 reasons. Retrieved from the measured mom: http://www.themeasuredmom.com/10-reasons-why-kids-need-to-know-nursery-rhymes/

Kennison, S. M. (2014). Introduction to language development. USA: Sage Publication.

McCracken, D. D., & Wolfe, R. J. (2004). User-Centered Website Development. A Human-Computer Interaction Approach. Pearson Prentice Hall.

Rahamat, R. b., Shah, P. M., Din, R. B., & Aziz, J. B. (2017). Student's readiness and perceptions to-wards using mobile technologies for learning the english language literature component. The English Teacher, 40, 69-84.

Rowan, C. (2013). The impact of technology on the developing child. Retrieved 29 September 2016, from http://www.huffingtonpost.com/cris-rowan/technology-children-negative-impact_b_3343245.html

Santosh, B.K. (2013). New ways of using multimedia in classroom. Retrieved 30 September 2016, from http://edtechreview.in/trends-insights/insights/746-new-ways-of-using-multimedia-in-classroom

Selvam, P. S. K. (2013). Teaching learning with multimedia. India, Delhi: Anmol.

Sessoms, D. (2017). 10 reasons today's students need technology in the classroom. Retrieved from Securedgenetworks: http://www.securedgenetworks.com/blog/10-Reasons-Today-s-Students-NEED-Technology-in-the-Classroom

Teoh, C. (2006, May 1). User-centred design (UCD) - 6 methods. Retrieved from Webcredible: https://www.webcredible.com/blog/user-centered-design-ucd-6-methods/

Wang, S., & Smith, S. (2013). Reading and grammar learning through mobile phones. Language Learning & Technology, 17(3), 117-134. Retrieved from https://pdfs.semanticscholar.org/48d5/2ef8ca212fd2d8711f16ca0eff1e96748054.pdf