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Research paper



Kid's Education and Fun Courseware

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Abstract

Kids Education and Fun courseware is a project developed to assist kids and preschool teacher in the phonetic language. Besides, it intended to be an additional tool to kids and preschool teacher use in classroom to expert and interested in phonetic language in more depth. Courseware is development is based on the project objectives that to design requirement of KidsEduFun, to design and develop the KidsEduFun as additional tool in learning and to test and evaluate KidsEduFun of usability testing to solve the problem statement in the project. KidsEduFun is comprises of three stages which are alphabet, phonetic and game. In the first stage, there are related to alphabet, the first step should been taken by kids is to know the alphabet. The user can get the information by clicking the button on the display screen. In the second stage, phonetic is the stage where the user can learn the alphabet sound in phonetic language. In the last stage, the user can try to answer the questions via the game provided to test their understanding. The methodologies that will be used in develop this learning program are ADDIE model. Lastly, KidsEduFun is developed to be used as additional tool to kids and preschool teacher in knowing the phonetic language. Besides that, it is able to attract students to study alphabet and phonetic language with the multimedia elements and essential for education now.

Keywords: *Kid's Education; Courseware; Phonetic*

1. Introduction

Phonetic is a systematic study of speech and sound of language.Traditionally, phonetics relies on careful observation and hearing to illustrate speech sounds. Based on how it is created and the aspect of their impression they make in doing this process, a phonetician refers to the classification framework for speech sounds.

According to Hayward (Experimental Phonetics: An Introduction , 2014), by tradition to learn pronunciation, phonetics depending on the sensitivity of your ears and their eyes and their awareness of their own vocal organs. But more and more, they have been using instruments of various types of information obtained from their own sensations. Experimental phonetics, as the term is commonly used, including any investigations speech through the instrument. Instruments have been used to visualize some aspects of the speech, and may also provide a
basis for measurement. For example, for the purpose of listening to the tape recordings repeat not included in the scope of experimental phonetics, but if the tape is inserted into the computer and used to generate acoustic analysis, these activities will be described as experimental investigations.

This study involves in developing a courseware on learning phonetic for preschooler aged between four to six years old. The name of this courseware is KidsEduFun which comes from Kid's Education and Fun courseware. The name KidsEduFun courseware has been chosen because to make education become more interesting. There are many teaching techniques in education. One of them is teaching using courseware. Usually, a courseware combines two important elements which is multimedia element and education element. The aim of this courseware is to provide a learning tool for kids between four to six years old. This courseware can helps kids to know the alphabet sound. Therefore, this method is used to attract children. The way to attract the kids is by using the colorful image and song. Besides, teacher also can use it as teaching kit for teaches their student.

KidsEduFun courseware have four section which is alphabet section that teach kids the alphabet, phonetic section which is teach kids the alphabet sound, game section which is kids can play the game for alphabet and phonetic, and lastly song section which allow kids to sing a song to make kids more relax after they have been learn all the twenty six alphabet and phonetic.

Correct pronunciation has been concern among non-native English speakers (Fei Ping Por, Zarina Mustafa, Shuki Osman, Hooi San Phoon, Soon Fook Fong, 2012). Therefore, this courseware is fully in English language that teaches all twenty six alphabets. KidsEduFun courseware is using video approach to make learning easier. This courseware is creating for kids that cannot learn in proper way for example kids in rural area. This courseware also is created to attract their attention on learning alphabet in addition giving fun to learning.

The important of developing a project is to solve certain issues that occurred. The first issue is traditional teaching method. Recent studies have shown that computer-based learning works to create learning situations that are more effective than traditional teaching methods that involve the presentation of teachers, tech-

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nical questions and answers, and discussion. (Ragasa, 2008). And second issue is motivation problem in learning English. According to Izzet Kara and Ozkan Kahraman (2008), learning is the result of reading with 10%, hearing with 20%, viewing with 30%, both viewing and listening with 50%, talking with 70% and both doing and talking with 90% set time. This shows that teaching materials that are supported by sound and animation are more effective for learning. To motivate kids to learn, the combination between the education elements with multimedia element should give fun and more interesting while at the same time kids can learn.

To address these issues, researchers find a few solutions. One of the solutions is develop a courseware to expose the phonetic teaching technique. By using courseware, this teaching technique can use in effective way. The second solution is to attract kid's attention and passion in learning alphabet by using courseware.

The importance of this project is the children benefit from the use of technology such as computers and screen projectors, which make teaching more visual and allows students to participate actively. Teachers also can use this courseware as their teaching tools for their students. Besides, this courseware will create a new ways of teaching environment for kids. It also will act as a teaching aid for teacher. It may enhance the interest of the students to learn about alphabet sound. KidsEduFun may enable the user to learn about alphabet in interesting and more effective way because it offers interactive way of learning via multimedia approach. As a further matter, kids can go through their lesson at their own pace. Kids also can use this courseware as their self learning courseware.

2. Literature Review

2.1. Multimedia in Education

The rapid development of interactive multimedia technology to some extent has brought an effect on the education system, particularly in aspect of teaching and learning. The information delivery process becomes more efficient through the use of various types of media such as text, video, graphic and animation. Multimedia also provides interactivity and allows users to control the course and the media used (Sandra Cairncross & Mike Mannion, 2001).

Cairncross and Mannion (2001) mention that the multimedia can present the information in various formats, allows interactivity, and allows users to control how they want the information presented. Multimedia appears to be an environment that supports the exploration and activities needed to study theoretical approaches in real-life situations (Ron Oliver, 1996)

By integrating multimedia, the learning process can be enhanced because it gives the user control over the delivery of information and support interactivity. Multimedia can support different representations of the same information in a variety of formats that give students an authentic learning environment by providing a variety of roles and perspectives (Sandra Cairncross & Mike Mannion, 2001).

Multimedia component can be implemented into learning materials for preschool kids, primary school students, secondary school students, and also university or colleges students. It enhances the learning progress of the learners and it reaches the time and cost efficiency respectively. Kahn T. M., (1992) claimed that at some point in recent history, word got around that education without entertainment was worthless.

2.2. Courseware Learning

According Wikipedia, the software is a term that combines the words 'course' and 'software'. The point was originally used to describe additional educational material intended as kits for teachers or trainers or as tutorials for students, usually packaged for use with computers. Courseware also means that the development of hardware and computer-based software package produced on a large scale and they allow the use and learning individually. In addition, include a wide range of multimedia learning into educational tools that enable diversity in the presentation of the curriculum (Mayer, 2005).

According to Hick S. (1997) state that multimedia course is the medium of communication range in a single computer program that is used to present information. The combination of communication elements such as audio, music, sound, voice narrative, pictures and graphics can help the end users understand the message that is being presented, video to further explain or illustrate ideas.

2.3. Phonetic

Phonetics is the study of human speech sounds, or in the case of sign language are the same, which is part of linguistics. On the other hand, the characteristics of the sound system or signs of abstract and grammar are related to phonology. (Laver, 2001).

The field of phonetics is a multilayered subject of linguistics that focuses on speech. In the case of oral languages there are three basic areas of study:

- **Articulatory phonetics**: study of speech sound production by the vocal tract articulatory and speaker.
- **Acoustics phonetics**: the study of the physical transmission of speech sounds from the speaker to the listener.
- **Auditory phonetics**: the study of the reception and perception of speech sounds by the listener.

As early as the 4th century BC, phonetics was studied with Panini's account of the place and means of consonant articulation in his treatise on Sanskrit in the subcontinent of India. The main Indic letter today ordered their consonants according to Panini's classification. Phonetic writing system created by the Phoenicians who is credited as the first person who invented this writing in which all major modern phonetic alphabets now derived (D. Archangeli & D. Pulleyblank, 1994).

Modern phonetic beginnings with experiments like Joshua Steele (1779) and Alexander Melville Bell (1867) to introduce precise notation systems for speech sounds.

Basic phonetic transcription of speech that is used is the International Phonetic Alphabet (IPA) is based on the Latin al-Thabet. It is capable of copying most of the speech features such as consonant, vocal, and supra segments. Each phoneme documentation contained in the language known in the world are given the same symbols.

Applications of phonetics include:

- **Forensic phonetics**: the use of phonetics (the science of speech) for forensic (legal) purposes.
- **Speech Recognition**: the analysis and transcription of recorded speech by a computer system.

2.4. Usability for Children Users

Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process. Usability also means making products and systems easier to use, and matching them more closely to user needs and requirements (Nielsen, 2012).

Usability is defined by 5 quality components:

- **Effectiveness**: users can complete tasks, achieve goals with the product.
- **Satisfaction**: what do users think about the products ease of use?
- **Learn ability**: how easy is it for users to achieve basic tasks the first time they encounter design?
- **Efficiency**: once users have learned the design, how quickly can they perform tasks?
- **Errors**: how many mistakes do users make, how to avoid these mistakes, and how easily can the recover from the mistakes?

2.5. Usability for Children Users

Game base learning is the interactive way to learn. Several aspects of learning process are supported through games. The kids are encouraged to combine knowledge from different areas to solve the problem. Besides, the learners also are encourages to discuss the problem with the other team members to improve their social skill. The individual can use game to make learning fun and live up their classroom. By using game, it can motivate students to learn outside the classroom. The students can learn more effectively by immerse them in the material and they also can learn from their mistake. Norizan (2003) also said that gaming approach is one of learning technique that is effective especially for the children that is too afraid to learn.

The game has been recognized as a good tool to promote students to actively participate in learning activities. A study by Terrell and Rendulic (1996) had indicate that a group of student who use computer games for learning can improve motivation and internal learning achievement of student compare to traditional way of learning.

3. Methodology

The main objective of this research is to expose the phonetic teaching technique using courseware. ADDIE model is used as a framework in the development of KidsEduFun courseware. The framework for the development of this courseware is divided by three stages as shown in Figure 1.

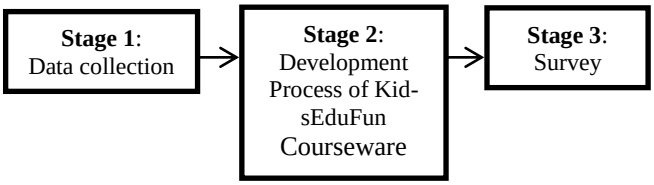


Figure 1: The framework

Stage 1 is collecting the data which is all information that relate to the objective of the project will be collected. Moreover, reading a previous study to integrate computer-based technology into the teaching and learning process has been done at this stage. Stage 2 is the KidsEduFun courseware development process involving five steps based on the ADDIE model: analysis, design, development, implementation and evaluation. The ADDIE model has been choosing because it helps the process of developing become systematic. The process of designing and developing courseware after the data obtained from the analysis. Then, the courseware was tested in the implementation process before the evaluation on the courseware has been done. Stage 3 involves survey of KidsEduFun courseware software. This paper will discuss the results of survey on users acceptance through multimedia elements designed in software multimedia.

4. Results and Findings

The results and findings for the study was collected from 30 teachers who were selected at randomly have participated in this evaluation. These teachers teach children age four to six years old from preschool. The evaluation was conducted by distributing a questionnaire to teachers after they teach children aged four to six years using the KidsEduFun courseware. The evaluation is done based on the multimedia elements in KidsEduFun courseware which is including text, graphical, animation, and interactivity.

According to Table 1, only one out of four (Question 3) gets a mean score of above 4 which shows that most of teachers choose to with the clear text layout. While the Question 1, Question 2 and Question 4 scored 3.97, 3.87, and 3.60 respectively which showed the teachers satisfied with the text is easy to read, fonts are suitable and the content was clearly explained in KidsEduFun courseware.

Table 1: Mean Score for Element of Text Used in KidsEduFun

No	Items Question	Mean	Std. Deviation
Q1	**Easy to read**	3.97	0.49
Q2	**Fonts are suitable**	3.87	0.63
Q3	**Clear text layout**	4.03	0.41
Q4	**The content was clearly explained**	3.60	0.56

Table 2 shows that Question 2, Question 3 and Question 4 mean scores get above 4 which are 4.13, 4.07, and 4.03 respectively, it is observed that these teachers agree that the element of graphical used in KidsEduFun are clear, suitable for kids and helps to understand the content. Mean score for Question 1is 3.90, revealed that the color scheme used was appropriate in the courseware.

Table 2: Mean Score for Element of Graphical Used in KidsEduFun

No	Items Question	Mean	Std. Deviation
Q1	**The color scheme used was appropriate**	3.90	0.40
Q2	**The graphics are clear**	4.13	0.63
Q3	**The graphics are suitable**	4.07	0.52
Q4	**The graphics helps to understand the content**	4.03	0.56

Table 3 revealed that most of teachers stated that the animations are attractive with the mean score of 4.13 in Question 3. The findings also confirm that the animations presented are helpful to understand (Question 1) and it is suitable for kids (Question 2) where each gets a mean score of 3.93 and 3.87 respectively. Results for Question 4 also revealed that the animations are good in quality with the mean score of 3.67.

Table 3: Mean Score for Element of Animation Used in KidsEduFun

No	Items Question	Mean	Std. Deviation
Q1	**The animations presented are helpful to understand**	3.93	0.52
Q2	**The animation elements used are suitable**	3.87	0.35
Q3	**The animation are attractive**	4.13	0.57
Q4	**The quality of the animations are good**	3.67	0.48

Table 4 revealed the mean score for interactivity in KidsEduFun courseware. From the observation, interactivity tools in Question 1 and the navigation links in Question 4 are easy to use with the mean score are 4.10 and 3.93 respectively. For Question 2 and Question 3, both buttons and links work well with the mean score

4.47 and 4.23 respectively, exposing that most of teacher have chosen agree and strongly agree.

Table 4: Mean Score for Element of Interactivity Used in KidsEduFun

No	Items Question	Mean	Std. Deviation
Q1	**Interactivity tools are easy to use**	4.10	0.58
Q2	**All the button are functioned**	4.47	0.51
Q3	**All the links are functioned**	4.23	0.57
Q4	**The navigation links are easy**	3.93	0.45

Figure 2 indicates that the average mean of each element is between 3.875 and 4.18. The highest mean score was interactivity element while the lowest mean score was text element with the average mean score 4.18 and 3.87 respectively. The kids learnt through graphical that appears on the KidsEduFun courseware with the mean score 4.03. This shows that this graphical element can help kids to better understand the learning process. Interactivity element attained highest score which is 4.18. In addition, animation element also helps to gain kids' interest to learn alphabets and phonetics with the mean score 3.90. The average score for the multimedia element in KidsEduFun courseware is 4.00 which indicate that most of teachers agreed on suitability of multimedia element that integrated into KidsEduFun courseware to assist them in learning all twenty six alphabets.

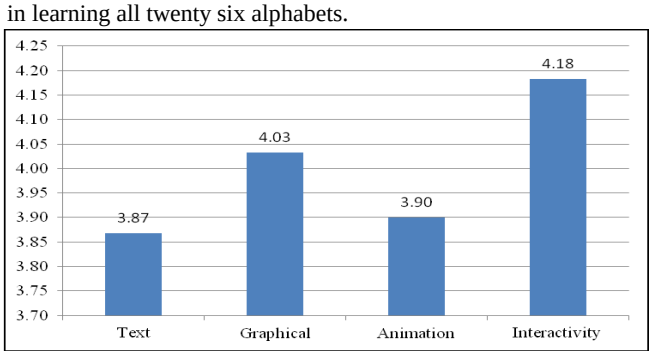


Figure 2 Average Mean Score for Multimedia Element in KidsEduFun

5. Conclusion

This paper describes the evaluation of user acceptance on the KidsEduFun software. The evaluation was conducted based on multimedia elements including text, animation, graphic and interactivity. The result of multimedia elements in courseware KidsEduFun has received positive feedback from preschool teachers. The findings indicate that the multimedia elements useful in developing a positive interest among children in phonetic learning. The findings from this study also help kids to recognize twenty-six English alphabet and phonetic pronunciation methods. Therefore, it can be considered that the course can be used as one of the instructional and learning tools that can help diversify the technologies used in the education world especially for the preschoolers. Finally, the use of this software can facilitate teachers and students based on a number of perspectives such as the ability to solve problems related to children and teachers especially in phonetic terms. This feedback will be used to further improve course software especially on multimedia elements.

References

[1] Bell, A. M. (1867). *Visible Speech: The Science of Universal Alphabetics.* London: Simpkin, Marshall & Co.
[2] D. Archangeli & D. Pulleyblank. (1994). Grounded Phonology. *MIP Press*, 502.
[3] Diah, N. M. (2003). *Pendekatan Bercerita Dan Permainan Dalam Pembangunan Perisian Kursus Akhlak Islamiah.* Bangi: Universiti Kebangsaan Malaysia.
[4] Fei Ping Por, Zarina Mustafa, Shuki Osman, Hooi San Phoon, Soon Fook Fong. (2012). Design and Development of Multimedia Pronunciation Learning Management Systems for Non-Native English Speakers. *Social and Behavioral Sciences*, 584-593.
[5] Hayward, K. (2014). *Experimental Phonetics: An Introduction* . Routledge.
[6] Hick, S. (1997). *Benefits of Interactive Multimedia Courseware.* Trican Multimedia Solutions Inc.
[7] Izzet Kara & Ozkan Kahraman. (2008). The Effect of Computer Assisted Instruction on the Achievement of Students on the Instruction of Physics Topic of 7th Grade Science Course at a Primary School. *Journal of Applied Sciences*, 1067-1072.
[8] Kahn, T. M. (1992). Multimedia literacy at Rowland: "A good story, well told". *Technological Horizons in Education*, 77-83.
[9] Laver, J. (2001). Linguistics Phonetics . In M. A. Rees-Mille, *The Handbook of Linguistics* (pp. 116-138).
[10] Mayer, R. E. (2005). The Cambridge Handbook of Multimedia Learning. In R. E. Maye, *Cognitive Theory of Multimedia Learning* (pp. 31-48). R. E. Mayer (Ed.).
[11] Nielsen, J. (2012). *Usability 101: Introduction to Usability.* Nielsen Norman Group.
[12] Ragasa, C. Y. (2008). A comparison of Computer-Assisted Instruction and the Traditional Method of Teaching Basic Statistics. *Journal of Statistics Education*.
[13] Ron Oliver, J. H. (1996). Developing an interactive multimedia package for tertiary teaching: Processes and issues. Different Approaches: Theory and Practice in Higher Education. *Proceedings HERDSA Conference.* Perth, Western Australia.
[14] Sandra Cairncross, Mike Mannion. (2001). Interactive Multimedia and Learning: Realizing the Benefits. *Innovations in Education & Teaching International*, 156-164.
[15] Steele, J. (1779). *Prosodia Rationalis.* London: J. Nichols.
[16] Steve Terrell & Paul Rendulic. (1996). Using computer-managed instructional software to increase motivation and achievement in elementary school children. *Journal of Research on Computing in Education*, 403-414.