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PowToon-Based Video Media for Teaching English for Young Learners: An Example of Design and Development Research

Luh Diah Surya Adnyani[1], Ni Wayan Surya Mahayanti[2], G.A.P Suprianti[3]
English Language Education
Universitas Pendidikan Ganesha
Singaraja, Indonesia
[1]surya.adnyani@undiksha.ac.id, [2]surya.mahayanti@undiksha.ac.id, [3]gap.suprianti@undiksha.ac.id

***Abstract*—This study aims to develop a digital teaching media using PowToon that will help raise the integration of ICT in the young learner classroom. In this study, a design and development research method (DDR) was used. The media were developed by applying phases of ADDIE. The development was based on questionnaires, interviews, and the syllabus of the elementary level. Four to six topics in each grade were developed using PowToon. Upon completion of the development phase, 31 prototypes were consulted with material and media experts. Although those media were categorized as excellent media, some improvements were still conducted in compliance with the experts' suggestions. The PowToon-based video media reached its final form following the applications in the classroom in line with observations conducted during its application and the feedback given by the teachers and students.**

Keywords—PowToon; media; young learner.

I. INTRODUCTION

In this 21st century, it is considered necessary to utilize modern technology in the teaching and learning process. The use of technology in education, especially for teaching, learning, and practicing English, may change some of the existing educational methods and allow the students to gain and practice the language at the same time [1]. It can also promote students' motivation and learning interest in the English language [2]. Since most schools have facilitated tools to support the use of technology in the learning process [3], the teacher must be the key to be able to blend new technologies and use it within the classroom to help the learners to have such a best learning experience with digital media [4, 5].

The students, who were born in the mid-1990s to 2010 are defined as z-generation [6]. They are digital natives who frequently use digital interactive technologies as one of the dominant activities in their play experiences, ways of communication, and their learning method [7]. The use of technology as learning media may stimulate students' feelings, thoughts, willingness, and attention while encouraging the learning process [3, 8] so that the information can be easily understood by students [9].

A questionnaire was given to 30 elementary school students at a favorite elementary school in Singaraja, Bali. The result shows that they are familiar with technology in their daily life. Most of the students use smart phones or laptops outside the school to watch YouTube, play games, and online reading. Students want to learn about using technology in the classroom. They have never experienced it because the teacher never uses technology in teaching English.

Although the school has facilities like LCD, software, CD for the teaching-learning process, ICT-based learning process only happens in a special moment, not in the daily teaching-learning process. The teachers have downloaded some learning material from YouTube, however, some contents do not suit the expected competency and level of the students. Besides, the English teacher does not feel confident in her ability to use technology in teaching and feel incompetent to make her English teaching media.

Based on this questionnaire and interview result, it is considered that the teacher needs English teaching media that utilizes technology which material based on the syllabus and suits the characteristics of the students. The media can be in the form of video animation. Video provides moving images and sounds that will increase the retention rate on the subject matter [10]. The animation addresses the 5 senses. It keeps the learners close to authentic situations in learning, attracts their attention and keeps them involved for a longer period. Simultaneously it involves listening, watching, reflecting, doing and participating [11].

One of the tools that can create an animated presentation is PowToon. The teacher can easily use PowToon because the interface of PowToon is similar to PowerPoint and the presentations can be stored in a traditional format, which allows the slides to move one by one [5, 12]. Powtoon has all the tools and objects needed for the planned video material with a wide selection of animated characters, cartoons, objects, backgrounds, images, music, sounds. The teacher no longer teaches based on the textbook because she may convey the lesson into an animation video through PowToon [13]. Besides, PowToon animation based-video that was found in January 2012 by Ilya Spitalnik and Daniel Zaturansky has a

positive impact on fostering young learners' learning, engagement, and concentration, prevent disruptive behavior and increase students' performance and motivation [13, 14]. Therefore, the purpose of this research is to develop instructional media for young learners in the form of PowToon-based video.

II. Research Method

This study is Design and Development Research and uses five phases of instructional design model namely the ADDIE model to create effective teaching tools [15]. The phases of this study are (1) Analyze, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation. To collect the data in the analyze phase, the researchers interviewed the teacher, observed the classroom, and distributed the questionnaire to students. In the design phase, this study benefitted from the instructional events suggested by Gagné [16], the multimedia design principles [17] and young learners' characteristics by Harmer [18]. In the development state, the products were validated by material and media experts to determine the feasibility of the products to be applied as teaching media. The data analysis technique used was descriptive statistical analysis [19]. The quantitative data obtained from the expert validation questionnaire was then converted into qualitative data on a scale of 5:

TABLE I. CONVERSION OF QUANTITATIVE DATA TO QUALITATIVE DATA FOR MATERIAL VALIDATION

Score Internal	Value	Category
X > 67.5	5	Excellent Media
52.5 < X < 67.5	4	Good Media
37.5 < X < 52.5	3	Average Media
22.5 < X < 37.5	2	Below Average
X < 22.5	1	Poor Media

TABLE II. CONVERSION OF QUANTITATIVE DATA TO QUALITATIVE DATA FOR MEDIA VALIDATION

Score Internal	Value	Category
X >90	5	Excellent Media
70< X <90	4	Good Media
50< X <70	3	Average Media
30< X <50	2	Below Average
X <30	1	Poor Media

III. Finding and Discussion

The phases of the ADDIE model are (1) analysis, (2) design, (3) development, (4) implementation, and (5) evaluation.

A. Analysis

In the analysis phase, the specification and the target group were identified. The target group was elementary students from first to sixth grade. They were young learners aged 6 to 12 years old who have certain characteristics. Young learners learn directly, understand something from what they see and hear, difficult to grasp abstract concept, have curiosity about the world around them, need for individual attention and approval from the teacher, talk and respond well to learning that uses themselves as main topics in the classroom, and have limited attention span [18].

The result of the questionnaire showed that the target group had a high interest in the use of technology as learning media. They frequently used technology in their daily activities and enjoy video animation. They loved the English subject, however, they rarely learned English using electronic media because the teacher did not have suitable English instructional media. Therefore, the development of instructional media in the form of PowToon-based video media which suits young learners' characteristics and following basic competence was needed.

The basic competence was taken from the syllabus. Analyzing the syllabus together with the teacher, 31 topics were agreed to be developed. There were four to six topics in each grade and the focus was vocabulary mastery.

TABLE III. TOPICS OF THE INSTRUCTIONAL MEDIA

Grade	Topic	Total
1	The names of places in the school, the location of someone in school, the position of objects in schools, parts of the body, instructions in the classroom and school uniform	6
2	Fruits, school uniform, birthday party, parts of the face, pets, and parts of a tree.	6
3	Job, hobby, days and activities, month and dates, time and activities on Sunday, and parts of the house	6
4	Clothes, animals, imperative sentence and interrogative sentence	4
5	Animals, clothes, foods and drinks, part of the body, and public places	5
6	Food and beverages, public places, transportation, and sport and hobbies	4

B. Design

The content of the instructional material was designed during the design phase. After having the topics, a blueprint was prepared. The blueprint consisted of grade, basic competence based on the syllabus, the focus of the learning, topic, type of activity, list of vocabulary and the script.

TABLE IV. EXAMPLE OF BLUEPRINT

Grade: 6 Basic Competence: Listening and Reading comprehension related to the topic Focus: Vocabulary mastery and language function			
Topic	**Type**	**Vocabulary**	**Script**
Food and Beverages	Multiple choices	Milk, fried chicken, bread, egg, tea, coffee	Question: Could I have a glass of milk? Which one is glass milk? Show pictures of milk, coffee, tea Answer: This is a glass of milk

The type of activity can be in the form of a multiple-choice test, vocabulary presentation, simple question, and answer, true-false, guessing game, matching game, and others. Free downloaded pictures were prepared before the prototype was developed.

C. Development

During the development phase, the prototype of PowToon-based video media was developed based on the blueprint. The development follows the following steps.

1. Make sure the PC is connected to the internet since Powtoon is only can be made online.
2. Search www.PowToon.com on the search engine bar or simply type PowToon on Google searching bar.
3. The direct link to PowToon's website will appear and click on the website.
4. After clicking the direct link to the PowToon's website, the homepage will appear.
5. Choose blank PowToon to make a new PowToon animation video.
6. Choose the slide style for the PowToon.
7. Use "scene" to make intro, outro, or another specific scene in the introduction.
8. Add background by taking the picture from the PC's gallery or simply use the provided picture from PowToon or use the color pallet provided. For non-premium, users cannot access the premium picture and can only use the free picture.
9. Add character by simply choosing the provided character. But, for non-premium users only can use some character sections.
10. Choose the movement by clicking the human-like button. There will be some movements like waving hand, happy, sad, angry, etc.
11. Add some properties like a chair, laptop, hand phone, food, car, bicycle, desk, etc. by clicking props button
12. Add text by clicking the "Text" button and add voiceover or back sound by clicking the "Sound" button. The back sound and voiceover can be from the PC or use the sound provided by the PowToon.
13. Adjust the time of each slide by adjusting the ruler on the bottom slide. Non-premium users can only make the PowToon video for a maximum of three minutes.
14. The play button under the slide picture can be used to review the slide before the video is exported.
15. Before exporting the video, the video can be reviewed by clicking review and export button on the right side of the bar
16. After the preview of the video, there will be an export button on the bottom right. Just click it to export the video.
17. There will be some options for the platform that can be chosen such as YouTube, Facebook, PowerPoint, or it can be directly downloaded to the PC. Non premium users can only export the video through YouTube or Facebook.

The screenshot of the developed PowToon-Based media can be seen in Figure 1, 2, and 3. Figure 1 is the introductory screen made similar from one video to another so that the videos appear as a series. Figure 2 shows the slide provided with the background, the characters, and the properties. Figure 3 shows one of the games inserted in the video.

Fig. 1. The Introductory Screen

Fig. 2. A Sample ScreenShot

Fig. 3. A Sample ScreenShot

The 31 prototypes from grade 1 to 6 were validated by material and media experts to determine the feasibility to be applied in the teaching-learning process. Each assessment of material aspects was conducted by two English Language Education lecturers, while the assessment of media aspects was conducted by an ICT lecturer. The material aspects included content and physical design or presentation suitability meanwhile, the media aspect includes graphic, technique, and audio. The results of the assessment can be seen in the following table.

TABLE V. RESULT OF EXPERT VALIDATION

Grade	Material Validation		Media Validation	
	Average Value	Category	Average Value	Category
1	69	Excellent	98	Excellent
2	72	Excellent	97	Excellent
3	70	Excellent	93	Excellent
4	68	Excellent	90	Excellent
5	72	Excellent	95	Excellent
6	75	Excellent	97	Excellent

All prototypes were validated as excellent PowToon-Based instructional media after several adjustments following the experts' suggestions. In general, the topic was following basic competence and relevant to the students' daily life. The number of vocabulary in the video enriched the students' knowledge. The material was well arranged, systematic, mapped from the easiest to the hardest and presented interestingly. The videos used appropriate text in words and sentences with clear and consistent font type, space, size, and correct spelling. Since the videos were targeted to elementary students, the materials are presented with pictures. The pictures had good quality, size, and relevant to real objects. The last, similar introduction was made to make the video seemed to have series. Besides, the videos had a good combination of background, picture, text, color, layout, music, and audio.

D. Implementation

The developed PowToon-based videos were implemented at school. The videos were played one by one in each grade. The first step was introducing the topics. The students were asked about the vocabulary related to the topics. Many of them mentioned in Bahasa Indonesia, they did not know the English language of those words. The second step was playing the PowToon-based video. The students learned the material by watching the vocabulary presentation, answering the question, playing matching games, choosing the correct answer, arranging the letter into the correct word, or others. The third step was to recalling the vocabulary they learned in the English language. After all the videos were played, the responses toward the implementation using PowToon-based videos were gained by giving questionnaires and interviewing the students and teacher.

E. Evaluation

The results of the questionnaire and interview showed that all students were very happy and enjoy the lesson because they liked watching the video. They said the pictures and the colors of the video were interesting, the music was fun, and they could listen to the narrator. They were familiar with the pictures and some vocabulary in the videos. They commonly saw things appeared in the video in their daily life and they could remember the English of those things by learning through the videos. They could remember the vocabularies when they watched the videos several times. Besides, they were enthusiastic and wanted to replay the videos again because they liked playing the game or quiz in the video. The English lesson was not boring. After watching PowToon-based videos, they loved the English lesson. Previously they seldom learned English using video in the classroom. They hoped they learn English by watching videos again in the next meetings.

The response was also given by the teacher. She stated that the videos helped the teacher in teaching the material. The videos contained vocabularies related to the topic, complete with their text and pronunciation. The narrator in the video helped her state the vocabularies with correct pronunciation so the students could see the picture, read the text, and listen clearly to the model. It follows the finding from [21] that blending ICT with vocabulary learning is effective and joyful. She felt teaching using PowToon-based videos was easy and efficient. She could play the video and let the students watched it and played the game. The teacher could plan the brainstorming in the beginning and reviewing session at the end to make the learning meaningful. The other activity could be designed as the follow-up activity of this video. However, it needed a teacher's creativity. She could feel students' curiosity in watching the videos. The students wanted to know the next slide and the next videos. The pictures and the characters in the videos were interesting and could attract students' interest and maintain their enthusiasm. They wanted to repeat the videos and play the game for the second time

although they had known the answer from the first watching session. The games in the videos made the students active and more interactive. Those findings were in line with [20] who found that teachers perceived technology in the classroom as helpful in giving better learning experience, improving students' motivation, and making the students focused.

IV. Conclusions and Suggestions

A. Conclusions

The development of PowToon-based video is a Design and Development research using the ADDIE model. In the analysis phase, elementary students from first to sixth grade were identified as the target group, and the topics were chosen from the syllabus. In the design phase, the content of the instructional material was prepared in a blueprint. It included the topic, type of activity, list of vocabulary based on the topic, the free-downloaded pictures, and the script. In the development phase, the blueprint was developed into PowToon-based video. There were four to six prototypes developed in each grade, with a total of 31 prototypes altogether. Each was evaluated by material and media experts to determine the feasibility of teaching. All of them were categorized as excellent videos. The next phase was the implementation. The prototypes were used by the teacher in the classroom. The responses of students and teachers after implementation were gained through interviews and questionnaires. They showed a positive response toward the use of PowToon-based video in the classroom: the teacher was facilitated and the students enjoyed the learning process.

B. Suggestions

Based on this research, there are some suggestions as follows. (1) PowToon-Based videos can be used as instructional media. (2) The teacher should be creative to create other activities besides watching the videos to improve students' English competence. (3) The teacher should utilize more technology in the classroom. (4) The teacher needs to create their instructional media, PowToon-based or any other. (5) Other researchers may conduct the field test to find the effect of PowToon-Based video on students' vocabulary mastery or English competence.

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