Vocabulary Learning Through Educational Animation: A Formative Evaluation of 'Learn with Voca' for Elementary Learners

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ARTICLE INFO	ABSTRACT
	The acquisition of English language skills is essential for elementary students; however, many learners encounter challenges such as limited vocabulary, difficulties in pronunciation, and inadequate writing skills. To address these issues and foster greater interest in learning English, this study focuses on the development of a 2D animation video titled Learn with Voca. The primary aim is to facilitate English language learning by providing engaging and accessible visual content that helps students better understand, recognize, and use English vocabulary effectively. This study has two main objectives: (1) to develop the Learn with Voca 2D animation video, and (2) to evaluate Learn with Voca 2D animation video through expert reviews. The evaluation methodology involved presenting a high-fidelity prototype of the animation to subject-matter experts, followed by structured interviews to gather feedback, suggestions, and recommendations for improvement. The findings reveal that the majority of experts positively endorsed the animation's content and storyline, highlighting its potential to capture students' attention, enhance engagement, boost motivation, and support classroom learning. Experts also agreed that Learn with Voca is appropriate for elementary-level students and can serve as an effective instructional tool for educators.

1. Introduction

Learning English is one of the subjects that needs to be learnt by elementary students. This is because English is a language that is most commonly used in communicating around the world. Language is one of the essential equipment that human beings use to speak with every other [1]. Language development is one of the main activities in early childhood learning [2]. It is also used as a first language in many countries and several countries use English as a second language. So it is important for elementary students to be introduced to English as foreign language. Students are taught to start conversations in English with their friends or their teachers, write in English, read an English storybook, listen to stories in English and other things that are related to English. For this reason, some students feel that learning English is difficult. Lack of vocabulary, pronunciation

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difficulties, unexpected learning atmosphere and less motivation [2,3]. Limited knowledge of vocabulary hinders acquisition of English language as the students particularly face obstacles in remembering and retrieving the words learnt, lack of opportunities in practising English and use of rote memorization strategies in vocabulary acquisition [4]. The limitation of class time makes it more difficult for teachers to teach English in a high-quality way as well as the lack of vocabulary in English learning can therefore influence students' motivation to learn English [4,5]. Therefore, elementary students need to get a learning media that can help them to learn English easily. Language acquisition in children is much helped by sound, both in the form of words or sentences [6].

Teachers need to be creative in finding teaching and learning processes that can help students to learn English easily. Teachers must provide applicative media that facilitates concrete demonstration of the material presented [7,19]. Teachers can apply creative and innovative independent learning patterns so that students can learn and explore imaginations without being hindered by space and time, ideas that can be poured directly into various forms such as text, video, audio, and animated films [8,19]. One of the methods that can be used by the teacher is using learning media. Learning media is a tool whether physics and non - physics that can be used by the teachers in conveying material to students to be more effective and efficient so that material can be accepted more quickly and intact as well as attract students to learn more. Interactive media such as animation video can be a powerful tool that can be used in education. The use of media in teaching early childhood students is very necessary [9,19]. It allows and encourages people, especially students to become more active in their learning experience, more collaborative, and to be more in control of what they're learning. The resulting animation and music contained in digital storytelling make children interested in enjoying the story [10,12]. Interactive media requires one and more elements such as moving image and graphics, animation, digital text, video, and audio. Media is everything that can be used to channel messages from the sender to the recipient so that it can stimulate the thoughts, feelings, attention and interests and attention of students in such a way that the learning process occurs [11]. Interactive media greatly influences students' motivation and engagement toward the vocabulary learning process. Teachers are encouraged to use interactive teaching media in developing students' vocabulary [12].

For this reason, this project's purpose is to create an 2D animation video which is Learn with Voca for helping students to learn english easily. The animation video could be a powerful tool for teachers to use in the teaching and learning process. This is because Learn with Voca animation video provides an interesting animation, the use of text, audio, sound effect, picture and story that can be easily understood by students. Animation video is a media combining moving pictures, texts, and graphics integrated with sound and voice [13]. Animation video is a kind of multimedia material that consist of verbal and non-verbal presentations display simultaneous images, narration on screen text [14]. Movement or motion is the crucial part to increase understanding about that material.

By using this 2D animation video to learn English, it will help students to get a new vocabulary in English, learn to spell the word, and how to read the word in a fun method. The use of animation video was effective to improve the students' vocabulary mastery as well as motivate them to study [15,18]. This is a great method to get students interested in learning English and also for changing the class to be more fun and exciting. Animated Film Media as an alternative medium for learning English that is appropriate, fun, creative and innovative in launching listening (listening), speaking (speaking), reading (reading), and writing (writing) [16,19]. Moreover, animated media is a great choice for conveying any material, including vocabulary. No wonder, animation is popular among children [17].

Two objectives required for this paper need to be achieved in order to create Learn with Voca 2D animation video. The objectives are:

1. To develop the Learn with Voca 2D animation video.
2. To evaluate the Learn with Voca 2D animation video with experts reviews.

Below are the examples of existing learning vocabulary animation (Table 1), the matrix analysis table between the animations are different from the Learn with Voca animation video (Table 2) and the comparative analysis (Figure 1) in triangle form between the previous animations and the Learn with Voca animation video that will be developed.

Table 1
The examples of existing Learning Animation Videos

No.	Animation	Description	Advantages	Disadvantages
1.	Fun Kids English	The videos focused on learning English and building vocabulary	● A lot of variety of vocabulary videos. ● Using a song in teaching Vocabulary. ● Teaching viewers about how to read the word more intensely. ● Using interesting, good and clear animation and audio.	● Lack of interaction with the viewer ● No game ● Only use the same movements for the animation. ● There is no special character. ● No storyline.
2.	Easy English	It educational videos that focus on English and vocabulary topics	● A lot of videos about vocabulary based on some theme. ● There are explanations about the word. ● Using Interesting, good and clear animation and audio.	● Lack of interaction with the viewer. ● No Game. ● There is no special character. ● No storyline.
3.	English Sing Sing	It aimed at teaching English and vocabulary skills	● A lot of videos about vocabulary based on some theme. ● Using Interesting, good and clear animation and audio. ● There is review time for the viewer to remember the words. ● Good interaction with the viewer.	● There is no special character. ● No storyline.

Table 2
Matrix Analysis Table between the learning vocabulary animation video are different from Learn with Voca

| No	Animation	Text	Audio	Music	Interaction	Game	Special Character	Storyline	Total
1.	Fun Kids English	✓	✓	✓					**3**
2.	Easy English	✓	✓	✓					**3**
3.	English Sing Sing	✓	✓	✓	✓	✓			**5**
4.	Learn with Voca	✓	✓	✓	✓	✓	✓	✓	**7**
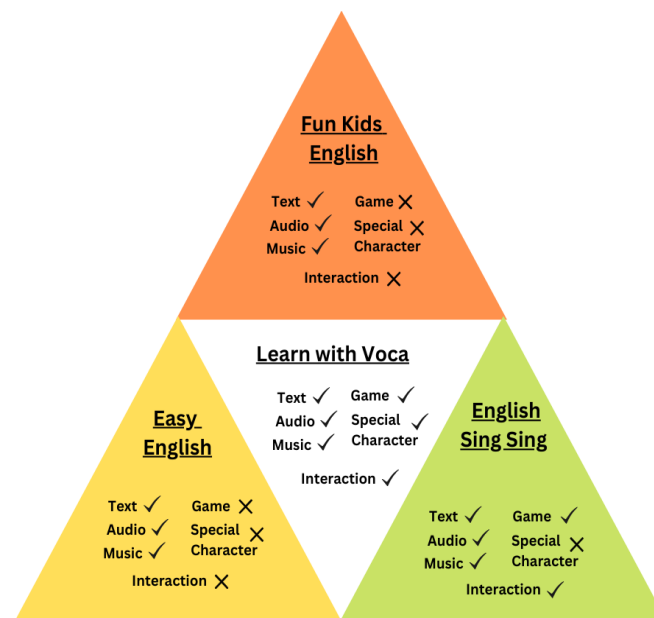
Fig. 1. Comparative Analysis

2. Methodology

As illustrated in Figure 2, this study consists of two phases: prototype development and prototype validation. The first phase involved the development of the prototype, which was designed with the involvement of the content experts (Hameed, 2020). This approach ensured that the needs of the target audience, specifically the public, were met. Continuous user feedback was integrated into the design process to refine the prototype, particularly in relation to multimedia elements. The prototype was developed using Adobe Animate CC.

In the second phase, the prototype underwent validation through an expert review process which provided valuable insights, identified potential issues, and led to recommended improvements [20,21,21]. Five experts, each with at least five years of experience in Audio, Video and Animation, were selected to evaluate the prototype. The interview session has gone through face to face. The interview began by introducing ourselves then introducing the project animation video and watching the 2D animation video which is Learn with Voca. The suggestions and comments of this animation

video from the experts were recorded to improve the animation video. The results were discussed in the result section. Feedback from these experts was collected through interview questions, analyzed qualitatively, and used to improve the application.
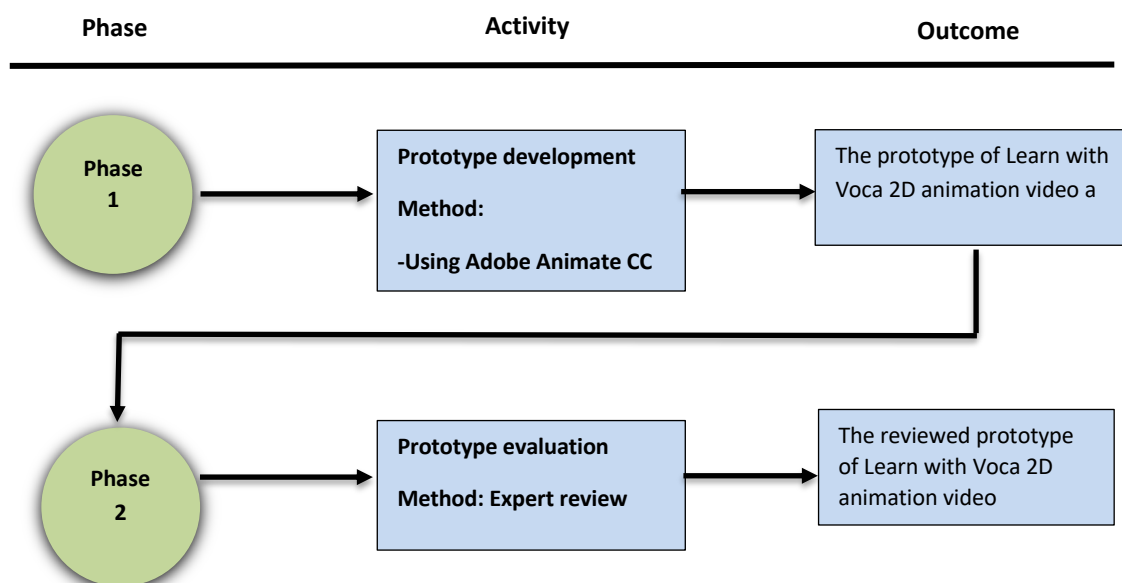
Fig. 2. Research Methodology

2. The Prototype of Learn with Voca 2D animation

Below is the prototype of Learn with Voca 2D animation video. After playing the video, the user will look at the title of the animation "Learn with Voca '' (Figure 2) and next move to the title of the episode which is "Find the lost lake" (Figure 3). Then, the first scene which is the rocket will appear with the sound of a danger alarm ringing (Figure 4). Then Voca starts to get the information that the lake has disappeared from earth. Voca needs to find the word of Lake to get back the lake to the earth (Figure 5). Then Voca went into the earth and started to find the letter by looking at his map (Figure 6).

First place that Voca needs to find is Forest (Figure) and find the leaf then Voca will get the 2 letters from lake (Figure 9). Next, Voca needs to go across the bridge (Figure 10) but also needs to arrange the bridge so that the bridge can be passed by Voca after that, Voca will get the next letter (Figure 11). To get the last letter, Voca needs to find the big egg (Figure 12) and arrange the word of hammer (Figure 13) and finally Voca is able to get the complete word of Lake and the lake is getting back to the earth (Figure 14). The video was closed by showing the viewer the credit title and music of Learn with Voca. This video was uploaded into YouTube for easy access to the viewer.

Fig. 3. Opening Videos

Fig. 4. Title of the episode

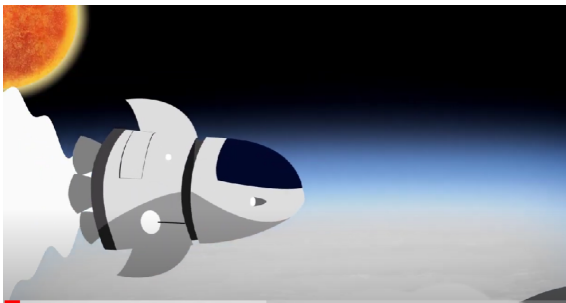**Fig. 5.** Voca's Rocket flying

Fig. 6. Voca needs to find the word Lake
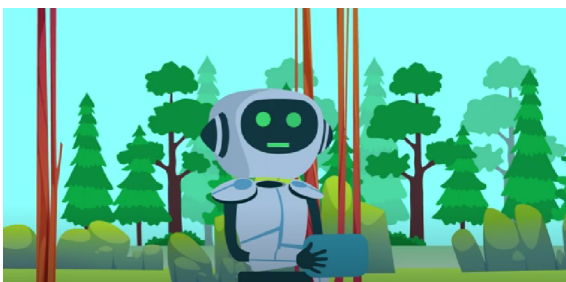

Fig. 7. Voca landed on earth

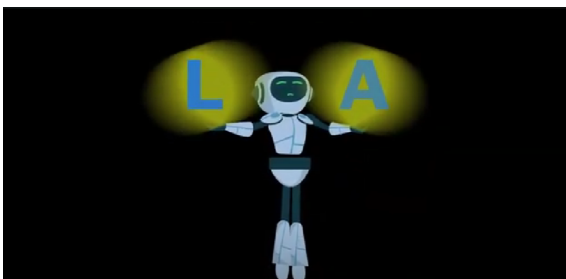**Fig. 8.** Voca need to go the forest

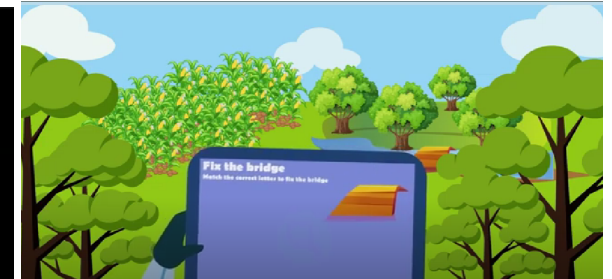**Fig. 9.** Voca got 2 first letters

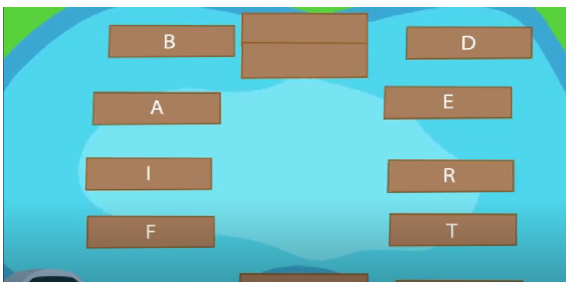**Fig. 10.** Voca need to go to bridge
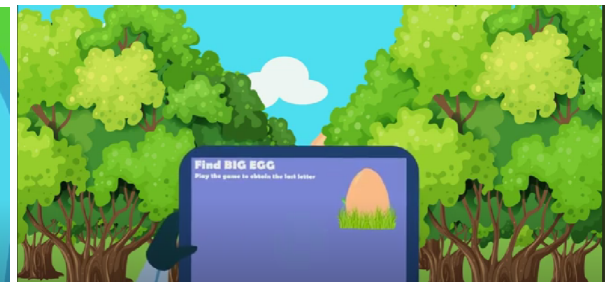

Fig. 11. Arrange the bridge

Fig. 12. Voca needs to find big egg

Fig. 13. Voca needs to arrange the word


Fig. 14. Voca able to get Lake back

4. Finding and Discussion

There are a total of 5 experts (4 males and 1 female) that have been interviewed that were involved in the evaluation phase to evaluate the Learn with Voca 2D animation video prototype. 2 males are content experts, one of them is English teacher the client of this project, while another expert is a senior lecturer. Besides that, there are three experts that are specialized in interface and interactive design, audio, video and animation. The interview questions has been classify into design, content and function as stated in Table 3.

Table 3
Interview Questions for Expert

No.	Questions	Focus
Q1	Does the Learn with Voca 2D animation video have an attractive design and is it suitable for elementary school students?	Design
Q2	In your opinion, are the font size and font type in the Learn with Voca 2D animation video suitable for viewing and reading	Design
Q3	Does the storyline provided in the Learn with Voca 2D animation video help students to improve their English vocabulary?	Content
Q4	Does the way of reading the sentences in the Learn with Voca 2D animation video is correct and easy to understand?	Content
Q5	Does the Learn with Voca 2D animation video functional helping users interact with the content?	Function
Q6	Are all the animation in the Learn with Voca 2D animation video which is Learn with Voca work smoothly?	Function
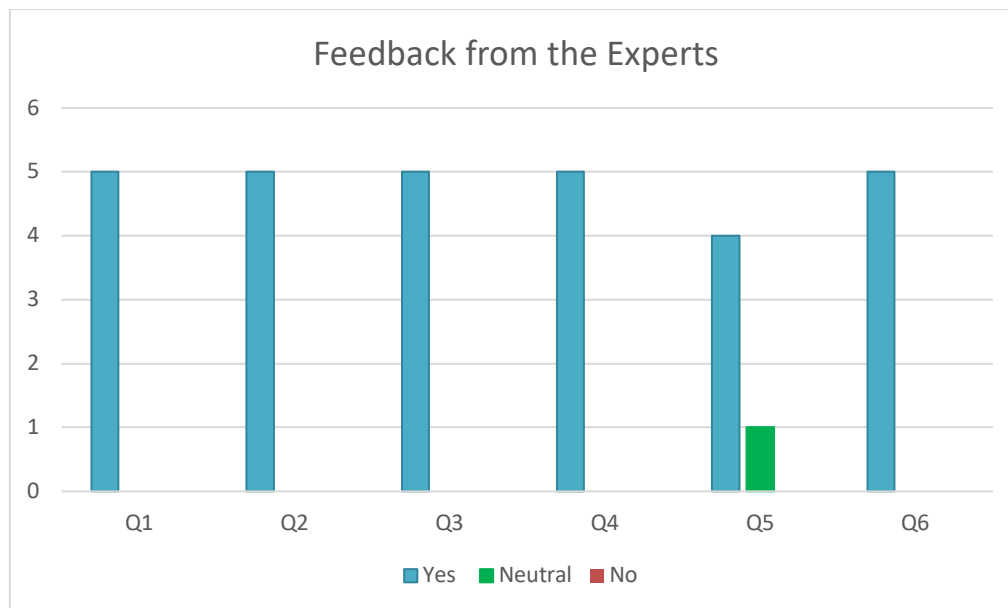
Fig. 15. Feedback from experts

Figure 15 presents a set of six questions designed to gather expert feedback focusing on the design, content, and functionality of the Learn with Voca 2D animation video. For Question 1, "Does the Learn with Voca 2D animation video have an attractive design and is it suitable for elementary school students?", the majority of experts agreed that the animation is visually appealing and appropriate for the target age group. In response to Question 2, "In your opinion, are the font size and font type in the Learn with Voca 2D animation video suitable for viewing and reading?", all experts unanimously agreed that the font style and size were appropriate and facilitated ease of reading. Regarding Question 3, most experts affirmed that the storyline presented in the animation effectively supports vocabulary acquisition among elementary students. They noted that the content allows users to learn English vocabulary more easily by engaging with the video.

For Question 4, all experts agreed that the pronunciation and sentence delivery in the animation were accurate and easy to comprehend, making it easier for students to understand and follow the English language content. In Question 5, which asked whether the animation is functional in supporting user interaction with the content, only one expert responded neutrally, while the remaining experts agreed that the animation supports user engagement effectively. Finally, in Question 6, all experts agreed that the animations within Learn with Voca functioned smoothly without technical issues.

4.1 Experts' Comments

After having some interview sessions with the experts, the experts also provided their suggestions and valuable comments to improve the quality of Learn with Voca animation video as shown in Table 4.

Table 4
Expert's Comments

Expert	Comments
Design	- Overall comments, it is a good animation video. - Gave a good comment about the character, background, colour that are used in the animation video. - Feel satisfied with the use of audio from Voca's sound, sound effect, music background. - Some suggestions are given such as changing the colour that is used for the text, changing that colour to a bright colour so the viewer can see it more clearly. - Give something such as a line or highlight or anything to the places that show on the map scene so that the viewer will be able to understand clearly which one is forest or other clearly. - Change the bridge picture that shows the bridge is broken. - Give the hint of words that need to be arranged such as in the scene of arrange the bridge.
Content	- Overall comments for the video is good - Gave a good comment on the using of audio for animation, storyline that looks like a treasure hunt game. - Some suggestions, for example changing the arrange word of the lake to be neatly, gave the same spacing between each other letter. - The storyline that is more suitable for young children (6 - 7 years old) will take their attention compared to the children 8 years old above. - Change the bridge that shows the bridge is broken clearly.
Function	- Overall comment is that the animation is good, interesting and entertaining for students. - Gave a lot of positive comments on the video from the picture, sound, audio, music and also the good diction and pronunciation. - Give some suggestions on giving the word or text on the video about what are the words that need to be arranged by Voca on the hammer scene.

Based on the experts review feedback and suggestions from the content, animation and language, the researcher have made some improvements to the animation video of Learn with Voca. The expert review can help the animation video to be better for the user. Below are the changes of video animation as illustrated in Figure 16, Figure 17 and Figure 18.

Before   **After**

Fig. 16. The changes of map scene (Highlight the object)

Before	After

Fig. 17. The changes of text for spelling the words
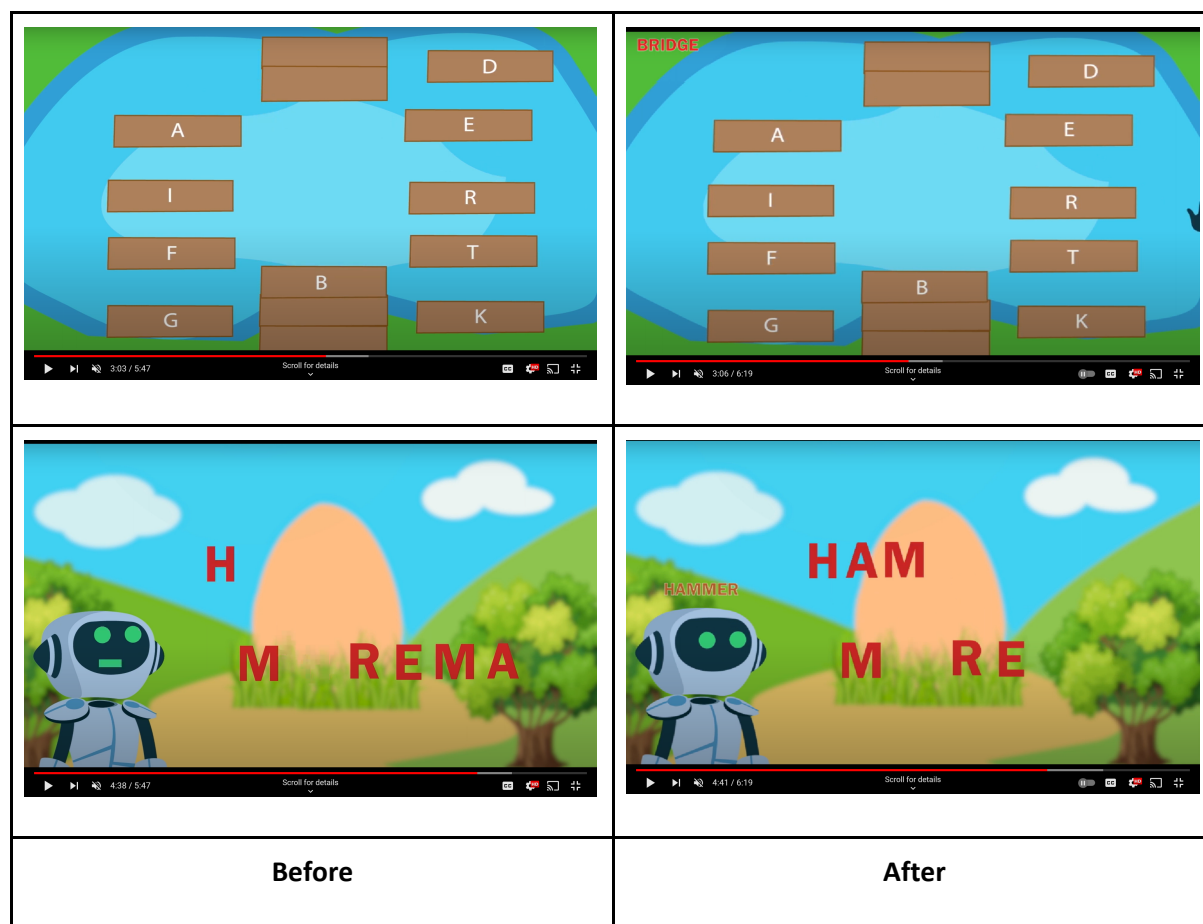
Before	After

Fig. 18. The changes on giving a hint about words

4. Conclusions

In a nutshell, Learn with Voca 2D animation video is a good animation video that can be used to help students learn english especially vocabulary and also can be a learning tool for elementary school teachers. This is because interactive media such as animation can be media that can attract students attention, influence student's engagement in class and also increase student's motivation. Learn with Voca 2D animation video has good use of text, audio, music, interaction with the user or viewer, sound, game and Voca as a special character so students will remember it clearly. The objectives of this paper have been achieved which are to develop the Learn with Voca video and to evaluate Learn with Voca 2D animation video with experts' review. Based on the experts' review, comments and suggestions on the video, the researcher had successfully made some improvements based on expert reviews on the video to create a better animation video.

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