The Design and Development of a 3D Stop Motion Animation as an Extra Curriculum Teaching Media in English Vocabulary of Animals

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Abstract

This study aimed to: 1) study the design and development process of making a 3D stop motion animation; 2) design and develop the 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in English vocabulary of animals; 3) use the 3D stop motion animation as the extra curriculum teaching media in English vocabulary of animals towards the sample, and; 4) assess the satisfaction of the sample towards the 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in English vocabulary of animals. The samples used in this research were 42 second grade students from Khehatongsonghong Witthaya 2 School selected by the purposive sampling method. The results showed that 1) the quality assessment result of the experts in multimedia and animation towards the design and development of a 3D stop motion animation as an extra curriculum teaching media in English vocabulary of animals was at a high level with 4.48 avg. and 2) the satisfaction assessment of the sample towards the design and development of a 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in English vocabulary of animals was at a high level with 3.96 avg. As a result, it can be concluded that the design and development of a 3D stop motion animation as an extra curriculum teaching media in English vocabulary of animals has achieved its objectives.

Keywords: 3D Stop Motion Animation, the Knight of Language Land, English Vocabulary of Animals

1. Introduction

According to an OECD of students aged between 7-15 years old on Mathematics, Science and English tests, Thailand is one of the sixteen countries whose students failed more than others. NIDA Poll has conducted a survey to assess this issue. The results showed that there were many issues such as family, schools and educational system, which has caused this disappointment. Furthermore, 30.31 percent of the surveyed students dislike learning English for many reasons: English is not a local language. It is difficult to understand and communicate.

Media is a popular medium used in education. Generally, the main objective of using media in education is to pass on knowledge to learners. It is also used to confirm that the learners will achieve

every aspect of the study. There are many kinds of media in education such as games, videos, infographics, 2D animation, and 3D animation. These Medias can help elevating good study environment both in classroom and self-study at home. Therefore, media is an efficient tool for teaching and self-study. Thanomjit Wansungnern (2003) studied the development of computer-aided instructional (CAI) media on Thai culture and found that the CAI can boost student confident and study on their own pace. Naret Boonlert (2007) created CAI media in Buddhism for 4th grade student and found that the CAI helps increase effectiveness on the Buddhism study with the .01 statistical significant. Kamol Jirapong (2012) developed an augmented reality media on Thai culture and found significant difference in using the augmented reality media to stimulate Thai culture interest.

This study focused on the importance of using media to encourage students and changing their attitudes towards the English language. The Knight of Language Land is a 3D stop motion animation as an extra curriculum teaching media in English vocabulary of animals having A-Z in the first character of each word. Moreover, it has been designed and developed to entertain and educate the students at the same time.

2. Objectives of the study

The objectives of the study are as follows:

2.1 To study the development process of a 3D stop motion animation.

2.2 To design and develop the 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in English vocabulary of animals

2.3 To use the 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in English vocabulary of animals having A-Z in the first character.

2.4 To study the satisfaction of the samples towards the 3D stop motion animation, the Knight of Language Land.

3. Research Methodology

A set of research tools in this study has been used for developing a 3D stop motion animation, the Knight of Language Land, and collecting essential data from the sample group as in the following:

3.1 The design and development processes of the 3D stop motion animation, the Knight of Language Land.

The design and development process of making the 3D stop motion animation, the Knight of Language Land, has consisted of 6 stages of development as following:

3.1.1 Studying the learning behavior of 7 years old children and above.

3.1.2 Investigating types of animation in teaching media.

3.1.3 Reviewing 3D stop motion animation techniques that are suitable for developing an extra curriculum teaching media.

3.1.4 Analyzing data and selecting a fitting technique to develop the extra curriculum teaching media in English vocabulary of animals.

3.1.5 Assessing the 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in Englishvocabulary of animals by content experts and multimedia experts.

3.1.6 Adjusting the 3D Stop Motion Animation, the Knight of Language Land, based on the suggestion from content experts and multimedia experts.

Figure 1 The design and development processes of the 3D Stop Motion Animation, the Knight of Language Land, as an Extra Curriculum Teaching Media in English Vocabulary of Animals.
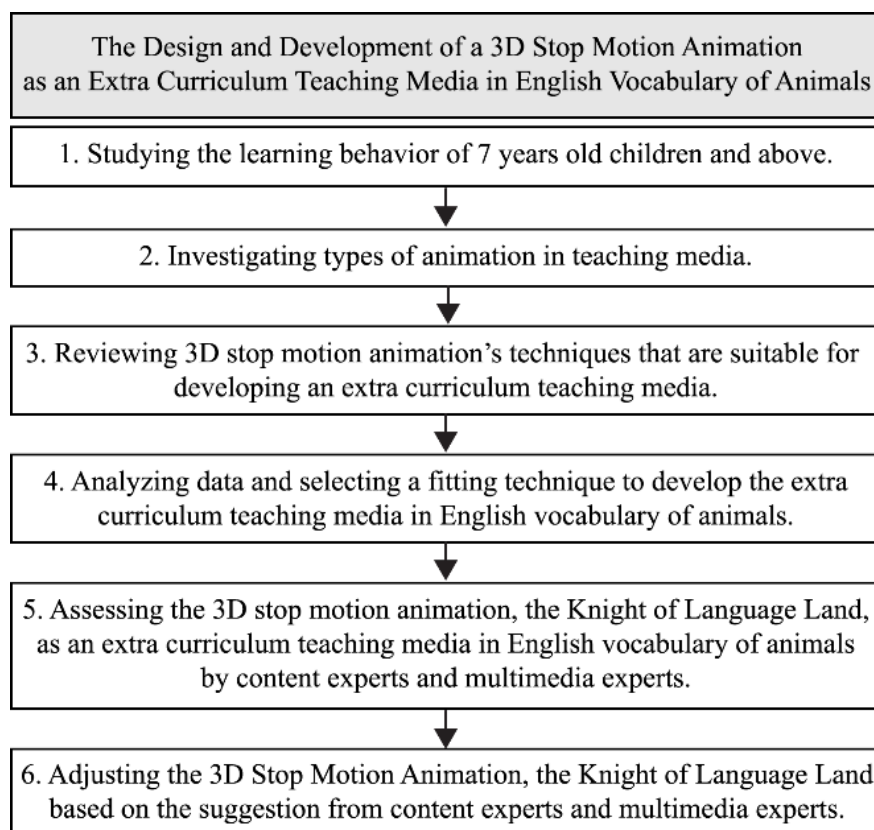
3.2 *The satisfaction assessment of the second grade students towards a 3D stop motion animation, the Knight of Language Land.*

In order to analyse the outcome of the design and development of a 3D stop motion animation, the Knight of Language Land, several tools have been used to ensure accuracy of the study. The following are steps for data collection (see Figure 2).

3.2.1 Studying available satisfaction survey forms for a sample group and quality assessment form for experts in both media and education.

3.2.2 Analyzing information to design the satisfaction survey and the quality assessment survey.

3.2.3 Creating the quality assessment survey of the media and the satisfaction appraised form.

3.2.4 Adjusting both the quality assessment form and satisfaction assessment form based on the advisor's instruction.

3.2.5 Using the quality assessment form to collect data from content experts and multimedia experts, and using the satisfaction assessment survey to gather data from the samples.

Figure 2 The satisfaction assessment of the second grade students towards a 3D stop motion animation, the Knight of Language Land.
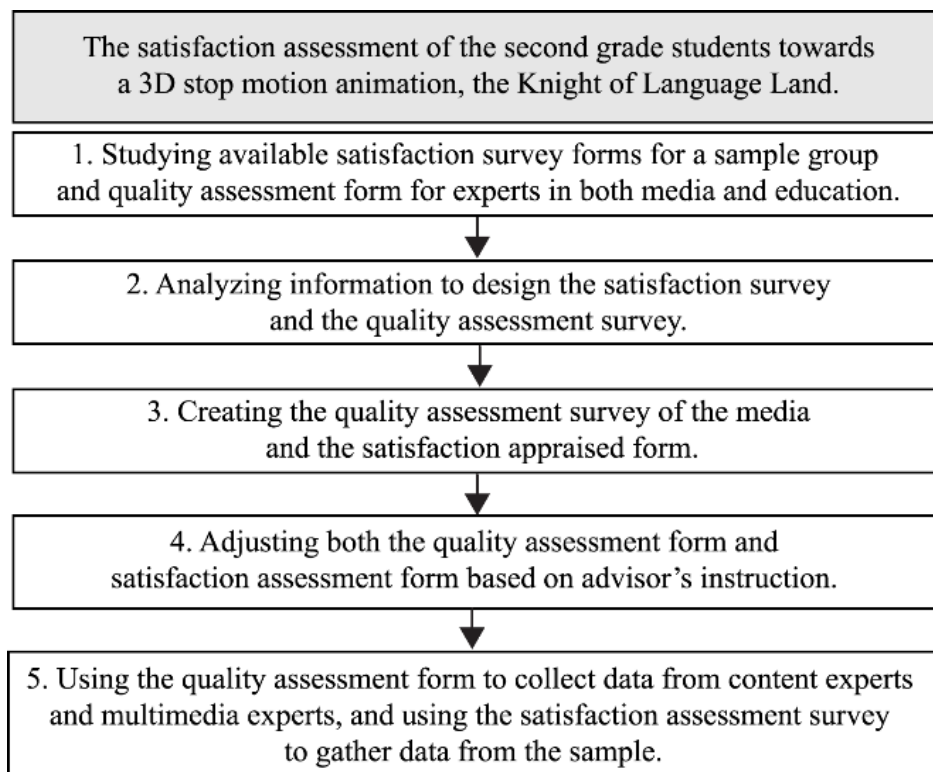
3.3 Data Collection

In this study, based on the design and development of a 3D stop motion animation as an extracurricular media, 38 of 42 students were selected from Khehatongsonghong Witthaya 2 School using Taro Yamane's formula (Yamane 1967) at 5% margin of error (MoE). Then, purposive sample method was used to select 38 students. Moreover, the 3D Stop motion animation, the Knight of Language Land, as an extra curriculum teaching media were assessed by 3 experts in contents and 3 multimedia experts to ensure accuracy of the content.

3.4 Data Analysis

Statistical tools used in this study are the analysis of samples' satisfaction towards the design and development of a 3D stop motion animation, the Knight of Language Land, as an extra curriculum teaching media in English vocabulary of animals and the analysis of quality assessments from experts in content and multimedia. 5 points Likert scale (Likert 1962) and Boonchom Srisaard's analysis technique (Srisaard 2002) were used to create and analyze the quality and the satisfaction assessments.

4. The results

The result of design and development of a 3D stop motion animation as an extra curriculum teaching media in English vocabulary of animals for second grade students can be described in 3 following aspects.

4.1 The result of designing and developing a 3D stop motion animation as an extra curriculum teaching media (see Figure 3-6).

4.2 The quality assessment of the experts in content and multimedia was at satisfied level with 4.48 average and 0.41 SD.

4.3 The satisfaction result of the sample was at satisfied level with 3.96 average and 0.83 SD.
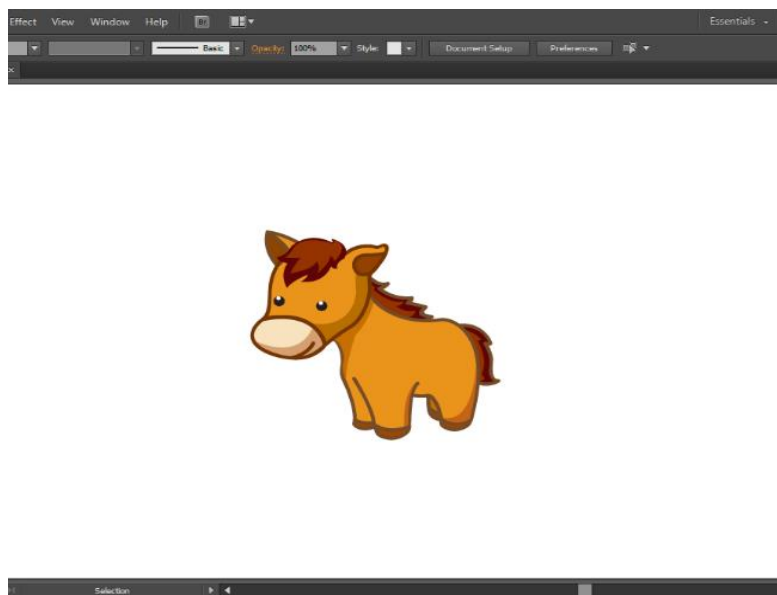

Figure 3 The design of a horse character for using in the 3D Stop Motion Animation, the Knight of Language Land.
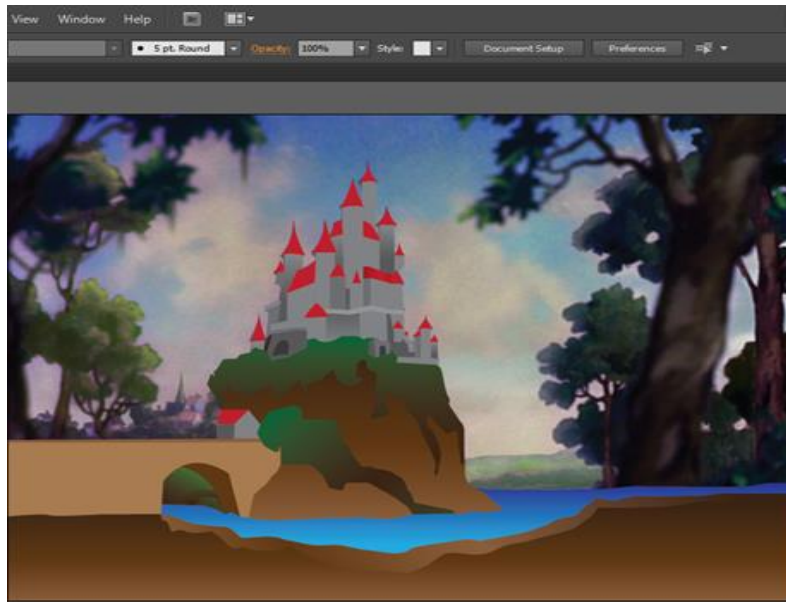
Figure 4 The design of a scene in the 3D Stop Motion Animation.

Figure 5 The 3D scene for the 3D stop motion animation based on 2D design references.

Figure 6 The 3D rigged character, the Fox, develops for using in the 3D stop motion animation.

5. Discussion

The result of the study on the design and development of a 3D stop motion animation as an extra curriculum teaching media, the Knight of Language Land, can be discussed in 2 following aspects.

The study on the design and development of a 3D stop motion animation has presented another way of creating a 3D stop motion animation with 3D software using the same principles as clay animation.

The score of the quality assessment from experts in contents and multimedia showed that the information and contents in the 3D stop motion animation, the Knight of Language Land, was designed and developed for accurate information and content for teaching English vocabulary of animations for second grade students.

The scores of the satisfaction assessment discussed earlier show that a 3D stop motion animation can be used to teach the students aged between 7-12-year-old.

6. Suggestions

The design and development of a 3D stop motion animation as an extra curriculum teaching media in English Vocabulary of animals has achieved its objectives. However, the researcher has found a few suggestions.

6.1 It is quite difficult to select vocabulary for second grade students from different schools because the differences between A-Z vocabularies used for teaching second grade students, such as A as ants or A as alligator.

6.2 A 3D stop motion animation might not be the most popular tool for developing content for second grade students due to a lack of flowing movement of the characters and other interesting techniques such as virtual reality or augmented reality.

6.3 In the next research, there should be a comparison between types of media that are suitable for age group of the sample.

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