

ENGLISH LEARNING USING INFOGRAPHICS FOR BALINESE SECONDARY SCHOOL STUDENTS

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Abstract: *As the facilitator of the learning process, the teacher needs to utilize appropriate media for students to help them learn better. Visual media is considered a great help as it provides information more attractively. Thus, this study aimed to develop infographics as an English teaching medium for 8th-grade junior high school students. The subject of this research was the English learning media used by the 8th-grade teacher at SMPN 4 Singaraja. This study was a Design and Development research which consisted of 3 steps of research, namely design, development, and evaluation. The researcher's notes, infographic development blueprints, instrument validation, and expert judgment were used to collect the data. The data were from the researchers' notes, and the infographic development blueprint was described qualitatively. Meanwhile, the score obtained from the instrument validation and the results of the expert judgment were explained quantitatively. The final result indicated that the infographic is very good to be used as an English teaching medium, especially for the 8th grade of junior high school students. Therefore, this research concluded that by developing books containing infographics, English teachers could have another type of visual media to teach all topics in grade 8 by using infographics.*

Keywords: *Infographics; English; Teaching media*

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INTRODUCTION

Various countries compete in terms of education, especially in the learning process. At this time in the 21st century, schools in developed countries that are famous in their education compete in terms of technology in the learning process as a mandatory means to facilitate teachers to deliver learning material. As a developing country, Indonesia has begun to greatly utilize technology to support learning in all aspects of education. The media uses have also started to vary and compete with the international world. As an island that is very concerned with education, Bali, especially in the district of Buleleng, which is known as the city of education, is very enthusiastic about developing learning

media to facilitate student learning. The junior high school in Buleleng regency currently has used technology in teaching.

The teacher as a facilitator in learning will extensively utilize the appropriate media for students in the learning process to facilitate the delivery of material to be given. According to Muhamad (2014), media commonly used in the learning process are media in images, videos, infographics, and various media that can be enjoyed or seen by the eye in the learning process. According to Muhamad (2014), this media plays an essential role in delivering learning material, hoping that students can quickly understand the learning topics. Technology has a significant impact on education related to the style of explaining a learning material (Mulyono 2016). The media will also affect several aspects of students, one of which is the emergence of a spirit of learning when viewing engaging learning media. Students will also enjoy learning without feeling bored.

Teachers must provide good media in learning that will help student learning progress (Quinn, 2018). The teacher will try to find the right media to achieve students' essential aspects and streamline the learning time to understand the material provided. In theory, Muhamad (2014) stated that students generally want interesting and not boring learning so that the material taught or information provided can be conveyed well and clearly. When technology is developing, media is a source of information that is very useful for students to get information about learning. Visual media will help in the lesson because it can help motivate students and boost their enthusiasm to learn. This especially becomes important as Wijanarko (2020) found that junior high school students often show unenthusiastic behavior when learning, leading them to do other things that are not related to the learning process, such as chatting, joking with friends, drawing, and so on. Similarly, Roefs et al. (2021) also stated that students' boredom and loss of interest are well-known concerns in secondary education. Therefore, visual media will be very influential for students in junior high school.

Kruk and Zawodniak (2020) identified that boredom is the most frequent and intense feeling that students often experience in studying, which can hinder them from achieving learning outcomes. Mora (2011) suggested that boredom appears as the result of teacher-focused learning activities filled with lectures and limited hands-on or interactive activities. In the same line, Özerk (2020) also stated that boredom indicates reduced motivation and a lack of suitable learning strategies that do not encourage students to achieve learning outcomes. Therefore, according to Al-Shara (2015), teachers need to increase students' enjoyment in studying by utilizing fun, interactive learning resources or strategies. This is where technology, especially visual media, is much needed. It is because Rahmawati et al. (2021) found that at this age, students are more interested to learn information and knowledge that is packed in a creative and attractive visual without reducing the information conveyed. In addition, Shabiralyani et al. (2015) and Dewantari et al. (2021) suggested that the use of visual media is an effective and

interesting tool that helps to deliver the information more easily and encourages the students to be more motivated to learn. Many visual media can be used, including infographics (Rahmawati et al., 2021).

According to Ferreira (2014), the infographic is a visual representation of information that benefits conveying ideas or exploring problems. Smiciklas (2012) stated that it is a type of image that blends data with a design that will facilitate individuals or groups to convey information to their audience briefly. Ferreira (2014) stated that an infographic is a visual media that can be enjoyed directly through the eyes related to information or data. The use of infographics will be very easy to use for teachers as supporting media in student learning processes. Infographic contains the points of information that will be conveyed by the teacher based on the material that will be given. Research infographics that have been carried out include "Effectiveness of Using Infographics as an Approach for Teaching Programming Fundamentals on Developing Analytical Thinking Skills" by Al-Mohammadi (2017) "Effects of Infographics on Student Achievement and Students' Perceptions" by Alrwele (2017), this study produced a positive thing in the use of infographic in various aspects of learning in schools. Infographic is very suitable for being used as a visual learning media that will help convey information quickly through essential points obtained to be conveyed to the audience, especially for teachers to their students. Previous studies only discussed thinking skills and student achievement, and student perceptions.

According to Pourhosein Gilakjani (2011), visual learners will learn by means of charts or pictures in understanding information. Visual learning styles will not have a dependence on the instructor to understand the learning material and understand it. They only focus on enjoying the information that has been presented and will make important notes related to the information displayed. Boneva (2012) stated that visual learners do not really pay attention to the voice or dialogue of someone who provides learning material. They will only pay attention and tend to think in pictures. Visual learners will find it very important to present educational material using a diagram, chart, infographic, and other visual media. Menik (2016) stated that visual learners have a learning style by looking for visual images that can be remembered. A student who has characteristics as a highly visual student is a student who pays attention to the overall appearance of the image and does not read it, sees the purpose of the picture as a whole, and will remember it. Learning style using visual media, especially using infographics as a helper in providing information related to learning for students, will greatly affect the student's learning process in quickly understanding the points on the learning topic that will be given and requires efficient time in learning. In addition, infographic media will increase students' enthusiasm for learning by displaying an interestingly designed infographic in providing learning material.

Making infographics as a visual learning medium certainly has a comparison with other visual media why infographics were chosen as learning media. Infographics have advantages such as material or topics that will be informed to students already on the infographic which is only one page without the topic or material that a teacher will provide, making it easier for students to summarize and understand by looking at just one page (Alqudah et al., 2019). Compared to PowerPoint, Hashemi et al. (2012) state that PowerPoint in its use must be downloaded again according to the needs of its users. According to Yıldırım (2016), the difference is that infographic templates are available from the application according to your needs and can adjust to the topic you want. Based on this explanation, it can be said that infographics have an advantage in summarizing a material or topic that will be discussed on one page only, compared to PowerPoint, which uses many pages to explain the important points of a material.

According to Ferreira (2014), infographics have the advantage of conveying information in the form of visual media that explains important points in learning material so that it can be understood quickly, which of course can be used easily by someone in conveying information. Many experts have used infographics as their research. One of the studies uses infographics as support for online visual learning, using infographics to develop analytical thinking skills. What has not been found in previous research is how the infographic is developed as teaching media in junior high school with various levels as a tool to provide information related to learning material, which is especially found in 8th-grade junior high school. The development process includes the steps in designing the infographic and the software being used. Therefore, this research focused on developing infographics as English teaching media for the 8th grade of Junior High School students.

This research aimed to facilitate the teacher as the facilitator to convey important points of learning quickly and attractively and make students more easily understand the information provided by the teacher regarding learning material. Preliminary observations were conducted at SMPN 4 Singaraja to observe the existing media and learning facilities. Based on preliminary observations, SMPN 4 Singaraja is a school that has good facilities for its students. In addition, teachers can also take advantage of various technology-based learning media. For visual media, teachers at SMPN 4 Singaraja usually use PowerPoint as a medium for teaching. Therefore, this study will take a setting at SMPN 4 Singaraja to implement infographics as a learning medium so that the infographic will be used as a learning medium that serves to overcome these problems. Infographic media will be developed as learning media for 8th-grade students of junior high school through design and development research based on what was stated by Richey & Klein (2005). This research tried to investigate the process of developing the infographics and the quality of the infographics that were developed as teaching media for the 8th-grade students of junior high school.

LITERATURE REVIEW

Learning Style

Learning styles are important in the learning process to understand the material provided and influence the success of the learning process. According to Gülhanım (2018), learning style is a concept in distinguishing knowledge and intelligence in each individual. Similarly, Yagcioglu (2016) stated that learning style is a device of preference in learning discussions that can exploit certain cognitive abilities in each individual. In the same line, Gudnason (2017) states that learning style can measure students' knowledge of understanding in the learning process, making students get interested in the subject or concept being taught. There are three types of learning styles proposed by Dornyei (2005) and Oxford (2001) in Akram (2014), which are visual, auditory, and kinesthetic learning styles.

Visual learners remember the material that has been given through the visual. They will remember the material or topics taught with media such as blackboards and books, and usually, visual learners will receive much material through their eyesight then write them down. The learning media used for visual learners are photos, illustrations, flashcards, graphics, posters, videos, films, and much more. The auditory learning style focuses on students learning through hearing and speaking to a piece of information or topic. Those who use this learning method will make it easier for them to communicate. Examples of auditory media are radio, tape recorder, telephone, and many more. Finally, kinesthetic learning is learning that is suitable for students with a learning atmosphere that is not too serious. Students will be allowed to explore and be active in the learning process, and usually, this learning is conveyed by the teacher through games. This learning model can also be group learning because students can freely express themselves.

Various Media for Teaching English

Teaching media is a very important tool in the learning process in delivering interesting and efficient learning materials. According to Xu (2018), teaching media are widely used in the learning process, which is an important element in supporting learning. Xu (2018) stated that multimedia learning in learning English could be very helpful in ineffectiveness in various learning processes such as listening, writing, and developing students to think logically in problem-solving. According to Sioco & De Vera (2018), they are conducting technological interactions as a learning medium is a very important requirement in learning English. According to Sioco & De Vera (2018), English is a means of international communication and media used in learning. Harmer (2007) in Aini (2013) said that several media types could be used as teaching media. They are image of graphics, realia, board, book, overhead projector, flipchart, and multimedia technology.

Infographic as Media in Learning

Apriyanti et al. (2020) suggested that Indonesia is a country whose education system still uses visual learning media to obtain learning material. They further stated that visual media is very important in education to deliver information that is efficient and interesting. Infographics as a visual media that can convey information organized in the delivery material. Moreover, infographics make it easy for students to understand the learning required to be understood in each of the steps (Apriyanti et al., 2020). Infographics, as a tool to provide much-needed information in the world of education can convey important things of a large nature that can be conveyed briefly and accurately. A structured infographic can guide the reader to follow the stages correctly. The use of pictures, charts, and text in the infographics will greatly affect learning, especially in reducing learning boredom and shortening learning time without reducing the information that should be obtained in accordance with the material to be provided. It is because, in education, learning material is a very important thing that must be conveyed from a teacher to students in an organized manner so that student learning outcomes are maximized. The benefits of using infographics are that students are able to improve various skills in communicating visually, train students' critical thinking, and students have freedom of expression (Bicen, 2011). There are ten types of infographics, according to Tomboc (2018), which include visual, list-based, map, comparison, statistical, flowchart, timeline, visual resume, process, and interactive infographics.

METHOD

This research was used to design and development research design. Design and development research has structured systematic research from the design and development of a product or model developed for a medium (Richey & Klein, 2005). This research specifically used three stages in design and development research, whereas the researcher conducted research related to the initial stages of design, development, and the final stage of the evaluation of infographic tools as a medium for learning English (Richey & Klein, 2005). The focus of this research was to design and develop products in the form of visual learning media and conduct research.

This research was a research development that was more widely carried out at the work desk of the researcher. However, for the trial of the media, an English teacher who taught 8th-grade students at SMP Negeri 4 Singaraja was involved as the user. The data collection procedures in this study were guided by data collection procedures regarding ADDIE model by Richey & Klein (2005). Infographic component analysis was performed prior to media design, which was conducted through library research, whereas the syllabus of the 8th grade of junior high school was analyzed. Then, three validation instruments were used to develop products and develop English learning media based on the type of infographics that are in accordance with the material. They were content

expert evaluation sheet, media expert evaluation sheet, and expert product quality assessment.

The data were analyzed quantitatively by the instrument validation of product evaluation in the form of expert evaluation, whereas the result of the instrument validation was in the form of the number. There are two experts who were involved in this study. The experts were Made Hery Santosa and Lokita Purnamika Utami who were experts in English Language Education program at Ganesha University of Education. Therefore, the result of the instrument validation was analyzed quantitatively using the formula proposed by Tegeh & Kirna (2013). After that, the data obtained were qualified based on the level of achievement. According to Agung (2010), the indicators of success are five levels of achievement scale. Products that have been made are considered successful if they have reached the first and second highest qualifications. A percentage of 75% and above means the product has been successful and does not need revision. However, if the percentage is below 75%, then the product needs to be revised again to meet the predetermined percentage. The data categorization was made in accordance with the following formula proposed by Tegeh & Kirna (2013).

Figure 1.

The Formula of the Categorization of the Data

$$\text{Percentage} = \frac{\text{Actual Score}}{\text{SMI}} \times 100\%$$

Description

Actual score : Total answer x weight of each selection.

SMI : Total of questionnaire items x the highest weight

The data were then qualified based on the level of accomplishment (Agung, 2010). The product was judged as successful if it had reached the first and second highest qualification, as shown in Table 1.

Table 1.

Level of Accomplishment

Level of Accomplishment (%)	Qualification	Information
85-100	Very good	No need revision
75-84	Good	No need revision
64-74	Enough	Need revision
55-64	Bad	Need revision
0-54	Very bad	Need revision

RESULTS AND DISCUSSION

Results

The development of the infographics as media for teaching English was conducted in three steps. It started from designing infographics based on the blueprint and analysis of the syllabus. This blueprint contains 13 English topics in 8th-grade students, which were developed with a focus on learning based on social functions, language features, generic structures, examples, and questions in each topic to be able to assess understanding of the material. The next stage was to develop infographics with the Canva program, which is a program used to design infographics and which was also combined with Google Classroom as a place to work on practice questions to train students' understanding of the material. This Google Classroom was converted into a Quick Response (QR) code that was placed on the infographics.

There were 13 English topics developed into infographics. The focus of the content contained in the infographic design is based on the blueprint for developing an infographic based on the 8th-grade junior high school syllabus. For the exercise of each topic will be included in the form of QR codes in the infographic design that leads to the Google Classroom. Figure 2 presents the infographic for the first topic.



Figure 2. The Infographic for the First Topic

It can be seen from Figure 2 that the first topic was about asking and giving attention. On the infographic, detailed yet concise information was provided in an interesting way in order to help the students in better understanding the materials. As stated beforehand, the infographic also included a Quick Response (QR) code so that the students could scan and access the Google Classroom and did the rest of the learning activities. Another example of the infographic is presented in Figure 3.

QR Code Google Classroom

CAPABILITY & WILLINGNESS

ability / ability to do / do something willingness to do something.

STATING CAPABILITY
Using the modal "can, could, or be able"

CAN
To express capabilities in present tense / present form
S+Can +V1 (Can is always followed by the first form verb)

- Ryan can climb a tree.
- They can play guitars.

COULD
Used to express actions in a past tense
(More Polite)

- The policeman could arrest the criminal.
- Dani could not dance.

BE ABLE TO
used to express capabilities
(used present tense or past tense.)
S+be able to + V1

- She is able to finish the job herself.
- Toni and tini are able to collaborate.

STATING WILLINGNESS

Willingness
Will for present tense and *would* for past tense.

S + Will/would + V1
S + Will/Would + not + V1
Will/would + S + V1?

Figure 3. The Infographic for the Second Topic

It can be seen from Figure 3 that the second topic was about capability and willingness. The infographic was made so that it could help the students differentiate capability from willingness. The infographic used detailed yet concise information along with interesting visual media in the form of features and colors. The infographic, just like the rest of other infographics being developed, was also equipped with a Quick Response (QR) code that could help the students access the Google Classroom and did the rest of the learning activities.

Then, an assessment of the quality of the infographic was assessed through expert judgment. Two judges were involved in assessing the quality of the infographics. The two judges assessed the quality of the infographic based on its content and media. Based on the results obtained from the expert judgment, there were several components that the experts gave input. The experts provided suggestions for adding gamification, such as awarding points. In addition, another input was in the form of providing feedback and evaluation on the content evaluation sheet. Besides that, the media interactivity and the clarity of the instructions for teachers were also suggested to be improved.

The results of the product quality measurement indicated that the infographics as teaching media was categorized as an excellent learning medium to be used in the learning process according to its level of completeness so that it did not need to be revised. It was because the infographics received good scores. The results of the analysis of the product quality measurement are shown as follows.

1. Content Evaluation Sheet from Judge 1

$$\text{Percentage} = \frac{\text{Actual Score}}{\text{SMI}} \times 100\% = \frac{73}{80} \times 100\% = 91\%$$

2. Content Evaluation Sheet from Judge 2

$$\text{Percentage} = \frac{\text{Actual Score}}{\text{SMI}} \times 100\% = \frac{62}{80} \times 100\% = 77.5\%$$

3. Media Evaluation Sheet from Judge 1

$$\text{Percentage} = \frac{\text{Actual Score}}{\text{SMI}} \times 100\% = \frac{38}{40} \times 100\% = 95\%$$

4. Media Evaluation Sheet from Judge 2

$$\text{Percentage} = \frac{\text{Actual Score}}{\text{SMI}} \times 100\% = \frac{31}{40} \times 100\% = 77.5\%$$

Based on the results of expert judgment, the first judge gave a percentage of 91% for the infographic content, which was categorized as very good media. The second judge gave a percentage of 77.5% for the content of the infographic, which is categorized as good media. Then, the first judge gave a percentage of 95% for the media of infographic, which

categorized as very good media. The second judge gave a percentage of 77.5% for the media of infographic, which is categorized as good media. Based on the calculation results of the overall expert judgment, the results show that the range of ratings for content and media of infographic is very good, and it means no need to be revised according to the level of accomplishment.

Based on the final results obtained through the calculation of the expert judgment, infographics as a medium for teaching English have been successful in their development. This result could be proven by the level of achievement results where the final result shows that the infographic does not require revision in its development. Regarding the components of the evaluation sheet content, infographics have become a medium that provides good material on each topic. In terms of infographic design, the media itself has met the criteria and principles for good visual media (Aini, 2013; Reyna, 2016).

Discussion

The development of infographics as a learning medium was carried out using Richey and Klein's design and development research (2005). Therefore, there are three stages in infographic development: design, development, and evaluation. The development of this infographic used Canva, which is very easy to use and has provided various ready-to-use templates and supporting features that can complement the supporting factors of the visual aesthetics of the media in explaining learning material according to the topic. Its development must also pay attention to various factors that must be considered in developing good visual media, according to Reyna (2016), such as design elements, color schemes, typography, layout consistency, effective presentation of information, and aesthetics of a learning media. Learning media that are attractive and easy to understand will attract students' attention in learning. Students will be more motivated to learn to use visual media that is not boring in terms of design (Alqudah et al., 2019; Shabiralyani et al., 2015).

Therefore, the infographics are well packaged in various attractive templates and maximum designs to support the design aesthetics that do not reduce the points of information to be conveyed according to the learning topic. In the infographic design, there is a material summary of all topics in 8th grade junior high school. There are several related topics that are converted into one design. The material obtained from various sources is summarized and simplified so that it is only displayed in one infographic slide regarding the learning material. As said by Dunlap & Lowenthal (2016), students will find it easier to learn and understand information or material that is summarized in a simpler and more interesting way. This causes them to focus on important subjects only.

The infographic development was based on the 8th grade of the junior high school syllabus. This development focused on the concept of the material contained in each topic. Within each learning focus, the infographics contained social functions, language features,

examples, and exercises, but generic structural components were also added based on the required topic. All components were contained in one infographic slide so that discussion of material on a topic becomes more efficient with one infographic slide without reducing information related to the material of each learning topic (Yıldırım, 2016). The infographics were also developed with QR (Quick Response) codes. This QR (Quick Response) code contained questions about other issues in each topic so that users could access the link by scanning the QR (Quick Response) code to enter Google Classroom.

Google Classroom was chosen as a medium because Google Classroom is able to summarize all questions in one room. In addition, Google Forms in Google Classroom provides an answer key for each question so that it can be used as a reflection for users in understanding the material. In Google Classroom, users can also interact, share and communicate, so that the focus of learning is not only focused on using infographics. Therefore, the use of infographics as learning media can accommodate interactive concepts and activities. There are benefits to using infographics as learning media, such as streamlining time in learning and being able to provide freedom of expression so that the learning process can be carried out properly. (Bicen, 2011).

According to the two experts, based on the results of the quality of the infographics that have been developed, this media is categorized as a very good and relevant media that can be implemented in the learning process by the teacher. In terms of content, the infographic has explained each topic discussed in a simple and comprehensive manner with a learning focus in accordance with the blueprint that has been designed. In terms of media, infographics have become an effective and efficient medium that is used with only one slide that can cover information. Moreover, infographics are equipped with a Quick Response code (QR code) feature. The focus of learning can be expanded by adding practice questions to each topic or learning material. Scanning the QR code will direct the user to Google Classroom, where students will be able to answer existing questions and immediately see the score and answer key as soon as the test is completed. With various features and complementary content summarized on each discussion topic, it can be said that infographics have been fulfilled as a good medium to be implemented by teachers as a medium for learning English.

In accordance with Shabiralyani et al. (2015), in the learning process, the use of visual media has a great impact on the success of learning. General use of visual media will provide real situations to students in presenting learning material. Therefore, visual media is a very effective and efficient medium that can be used by teachers in the learning process. Learning English as a foreign language requires supporting media that can be used by teachers in conveying learning topics to their students, which are foreign languages to learn (Reyna, 2016). As a foreign language that has its own difficulty level, English is a popular subject and a challenge for teachers to teach their students so that it can be understood properly. This, of course, will impact the quality of the learning media

that will be used in the learning process. Visual media is one of the media that is said to be effective and efficient in conveying information (Yıldırım, 2016). Through visual media, Shabiralyani et al. (2015) stated that the information would be seen more clearly and in detail by students so that students will easily remember and understand it. However, as a foreign language that has its own difficulty level, student motivation needs to be improved in the process of learning English through visual media. Therefore, the development of infographics as a visual medium in learning is expected to help increase student motivation and provide teaching innovations to teachers. Infographics are made in such a way as to assist teachers in teaching English, especially for 8th-grade junior high school students.

CONCLUSION

The development of infographics as a medium of learning English for 8th-grade junior high school students was carried out by following the design and development research design stages. Design, development, and evaluation were carried out to develop these infographics. At the initial stage or design, a syllabus analysis was carried out as a guide in designing the media blueprint. In the development stage, the infographics were developed using the Canva program. At the evaluation stage, two kinds of expert judgment were carried out to test the quality of the infographic media as a visual learning medium. The expert judgments were media judgment and content judgment, focusing on the infographic media design and the content or material of the infographic, respectively. Several improvements were made based on suggestions from experts who have previously assessed the development of infographic media to provide steps for using media, increasing student learning motivation, media interactivity, and feedback on media use. The expert judgment results indicated that the product was considered good in quality. The results of this research indicated that teachers need to integrate technology in the class to create a fun and meaningful learning process. Even many media can help in the teaching process, teachers' creativity matters. The media is the vehicle, but teachers are the petrol and soul.

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