



## Infographics as a Tool to Facilitate English Learning Activities: Student's Perceptions

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**Abstract.** The research focuses on the impact of infographics as a tool for English learning through student's perceptions. The purpose of this research is to identify the positive impact of using infographics for students' learning and teaching activities in the classroom and also the appropriate learning media by educators. The researchers used descriptive quantitative research method in analyzing the data that was collected. The instrument of the research was a questionnaire that consists of questions and statements that must be filled in by the elected respondents. The questionnaire was targeted to students of Universitas Tidar, especially the student of the English Education Department study program in the second and fourth semesters. There were many as 41 participants as a sample in this study. The results of this study show that based on the students' experience of knowing and using infographics in the learning activity, most of them agree that the use of infographics as learning media has a very positive impact. Infographics are also the suitable medium to improve students' quality in understanding the material and their interest in learning.

**Keywords:** *Infographics, Learning Activity, English Learning*

### Introduction

Currently, developing teaching and learning materials for students of all educational levels is important. In fact, in every teaching and learning session, teachers utilize all available opportunities and teaching aids to further enhance students' interest and understanding. (Degeng, 2004) considers the quality of learning from two aspects. The learning process and the results. The effort to improve the quality of the learning process has been directed to the efforts made by learners and educators. Miarso (2007) explains that there are factors that influence or support the achievement of quality learning in achieving educational goals, one of which is the optimization of information and communication technology in the learning process. The development of information technology has given rise to many applications and media that teachers can use in their learning (Arochman et al., 2023; Fadhilah et al., 2021). Most teachers realize that to adapt to technological positivism in the classroom, they must keep up with the rapidly changing technology (Jaya et al., 2022). The pedagogical side of technology should emphasize the efficiency of information transfer

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from teacher to student without ignoring the enjoyment of learning. Many of the techniques that teachers use today are mainly based on computer applications such as Microsoft PowerPoint. Microsoft PowerPoint has interactive multimedia elements that are used in slide presentations to keep students informed during class.

Therefore, infographics were introduced as a teaching tool, especially in higher education, to support teachers in teaching and learning sessions and to make it easier for students to understand the material. Infographic is a word created by combining "information" and "graphic". It is an image that combines information and design, which allows individuals and organizations to convey information concisely to the public. The current study shows that 75% of the Information processed by the brain is coming from a visual setting. This shows that motivation and visual communication are critical components of the cognitive process for solving complicated issues.

Ozdamli & Ozdal (2018) conducted research on the development of educational media based on Analysis, Design, Development, Implementation, and Evaluation (ADDIE) by collecting the views of teachers and students. The use of infographics shows that these resources are not only suitable for students, but also for educators as a powerful tool to ensure that students are provided with the right information that they can use to complete their tasks. This will increase the popularity of infographics among students and apply them in the workplace environment. Infographics are a type of image that combines information and design to help individuals and organizations communicate with their audience in a concise manner. Infographics usually consist of two types of components: content (text, facts, data, knowledge) and visual elements (graphics, colors, symbols, emblems) (Siricharoen & Siricharoen, 2015). Infographics are characterised as visualisations of facts or concepts that aim to make complicated information understandable and accessible to a wide audience (Smiciklas, 2012). Data graphics make it possible to represent information using graphical elements that relate to the data, which can include charts, graphs, tables, symbols, and maps. As a visual tool, infographics present information that is useful in a way that is easy to understand and effectual. Researchers have shown how infographics facilitate mastery of concepts and methods to extend concepts to reality applications for students, demonstrating that infographics are an ideal tools in 21st century to support the valuing of learning by students and teachers.

Based on the preliminary observation, most of students at Universitas Tidar always felt unhappy when the materials were delivered using media textbook only. It made most of them feel bored because there was no visual media that made them interest to the materials. Moreover, their creativity to learn decreased. Thus, this research focuses on the use of infographics as a tool to facilitate English language learning in the English language education study program, Universitas Tidar. Therefore, the purpose of this study is mainly to describe the positive impact of using infographics as a suitable learning media to facilitate the teaching and learning process through students' perceptions.

## **Theoretical Framework**

### **Technology of Learning**

In the learning context, technology has played an increasingly important role in enhancing students' learning experiences and expanding the accessibility of education (Kirschner, 2015; Nicolaou et al., 2019). Technology has changed the way students actually engage in learning (Cushion & Townsend, 2019; Mirata et al., 2022). The textbook is not the only sources of information anymore. Through interactive multimedia, students can visualize complex concepts, develop creative thinking, and engage in interesting learning activities (Flavin & Quintero, 2018; Fominykh et al., 2022; Osman et al., 2022). This creates a more interactive learning environment, which can increase student interest and motivation. Roehling et al., (2010) state that This new generation of pupils was brought up in a multimedia environment where they are able to switch their focus between several sources of information or stimuli. The role of technology in learning is an innovation and an effort to

design and strategize future learning to be more optimal (Bower, 2019; Rosli & Saleh, 2022). The application of technology in learning can be seen in terms of its future impact in education, whether it creates a sustainable and beneficial environment, and also how the use of technology helps achieve other sustainable development goals, such as helping to provide access to education for everyone in society (Daniela, 2020). Thus, that is why technology has important role in learning.

In this era of continual innovation, education is also influenced by the significant impact of technology. Education even faces a digital transformation to improve the quality of student learning. The transformation requires students to aim for technology-based learning as a medium to support students in the learning process. This research shows that students in the digital era require digital age learning that includes visual representations of data to capture their attention and enthusiasm in learning (Prestridge et al., 2021; Romansky & Noninska, 2020; Starkey, 2020). Studies comparing visual and verbal communication show that compared to verbal communication, visual communication is more successful. It is because the human mind can quickly comprehend visual representations and spoken information more efficiently (Dur, 2014). Technology-based learning is one form of utilization and improving the prospects of education in the current era of globalization. Moreover, the use of technology in learning makes students more productive, not only in terms of knowledge but also other aspects such as creativity and enthusiasm in learning (Arochman & Yosintha, 2020; Van et al., 2021). Therefore, the use of technology is very needed for learners so they can optimize their learning.

### **Teaching and Learning Materials**

Students at the primary school level are constructing knowledge by interacting with resources and hence, they need to be introduced to suitable and interesting teaching and learning resources (Binsaleh & Binsaleh, 2020). Resources refer to the materials provided to support students' teaching and learning process (Naisiano et al., 2020; Osei-Himah & Adu-Gyamfi, 2022). It contains what each student needs to understand and master during learning. Teachers absolutely have the most control over the selection and presentation of student learning materials. The development and utilization of teaching-learning materials are widely recognized as crucial factors in promoting student learning and achieving academic goals and objectives (Djamas et al., 2018; Mutiara & Emilia, 2022; Widowati et al., 2017). The significance of learning materials encompasses various dimensions, and their role is multifaceted. Learning materials can be defined as tools or resources used to present and transmit educational content in a structured manner (Bušljeta, 2013). By using good learning materials, teaching will run well.

Howard & Major (2004) state that teaching materials are an important part of the majority of English language teaching programs. These materials are intertwined with several aspects, one of which is learning media, an essential component of teaching and learning materials. Learning media serves as a supportive element in the instructional process, facilitating the dissemination of knowledge being studied (Bulkani et al., 2022; Widodo & Wahyudin, 2018). Buditjahjanto (2022) asserts that learning media plays a vital role in compensating for any shortcomings in the delivery of knowledge during teaching and learning activities. The medium can range from textbooks, CDs/DVDs, or illustrations, and internet resources. Teachers can also depend extensively on a wide range of materials to support teaching and student learning. By incorporating appropriate learning media, teachers can enhance the effectiveness and efficiency of knowledge transmission, ensuring that students have access to comprehensive and engaging instructional materials. Almost teachers need to spend a lot of time to find, choosing, evaluating, adjusting and making materials to use in their classroom (Paliath & Evangeline, 2022; Pulungan, 2021). It all has to be very well organized to be able to decide on the appropriate media for each material and its implementation.

## Infographics

Infographics are an effective tool and a useful technique for visually attractive and easy-to-understand information presentation (Dehghani et al., 2023). Infographics have grown in popularity in recent years in education, particularly in language learning. According to Martin et al. (2019), infographics can be used as a technique to communicate ideas with the goal of simplifying difficult material into a form that is easily understood by everyone. While implemented in accordance with the teacher's guidelines and visual methods, the use of visual aspects in teaching and learning can provide favorable outcomes. Zadro et al. (2022) states that infographics are the most efficient way to communicate information in the digital age. According to Zhu et al. (2020), Effective infographic design can enable designers and readers/audience to reduce boring and overwhelming work. In education context, it allows teachers and students to carry out the teaching and learning process in the classroom more efficiently. The students can understand the material presented easily, while the teacher also does not need a lot of time to give a full explanation. Learning with the use of infographics will create a fun and more comfortable learning experience.

Infographic design should also be accompanied by a combination of communication settings (Otten et al., 2015). For example, infographics that are part of presentation are usually followed by oral explanation delivered by the presenter. Based on Multimedia Learning Theory, this theory states that learning will be better if information is presented through multiple sensory modalities. There are two distinct cognitive systems, one of which is focused on representing and processing images (non-verbal objects), and the other of which is concerned with language (Clark & Paivio, 1991). In human cognition, each system may operate simultaneously. This is where the concept of using infographics first emerged because they bring together both words and images on a single platform or design. Infographics can incorporate interactive elements, audio, text, images, and other media to give users a multimodal learning experience. Infographics may suit a variety of audiences by incorporating many modalities.

## Materials and Method

This study used a quantitative research method. This type of study includes measuring variables and examining their interactions in attempt to identify patterns, correlations, or causal links (Leavy, 2023). Neutrality, objectivity, and the gathering of a substantial breadth of information are the values driving quantitative research (e.g., a statistical overview from a large sample). This study was implemented in English Education Study Program of Universitas Tidar. The respondents were students in English classes. The population of this study were 2nd (02) and 4th (04) semester students. The sample used in this study was chosen randomly. In descriptive quantitative research, respondents were only treated once and not measured, in order to get real feedback from respondents. Giving feedback is used because students need something that they remind to be guide (Apriani, 2017). Descriptive research can provide norm shaping insights rather than standardized norms. Consequently, this approach was adopted to get actual scenarios from the learners regarding the problems they encountered throughout the sessions, as well as direct feedback on their approval of the usage of infographics as a tool to promote learning. The researchers started this research with several steps. First, the researchers make a questionnaire via Google Forms. The questions used are questions that are relevant to the topic under study. Second, the researchers distributed the Google Form questionnaire link to respondents via the Whatsapp application. Third, after the respondents filled out the questionnaire, the researchers collected data and analyzed the answers given by the respondents. The answers were analysed using Likert scale of 5: strongly agree, agree, neutral, disagree, and strongly disagree. The results of this study were illustrated using percentage in the form of figures. The last, it reached conclusions based on the research objectives.

## Results and Discussion

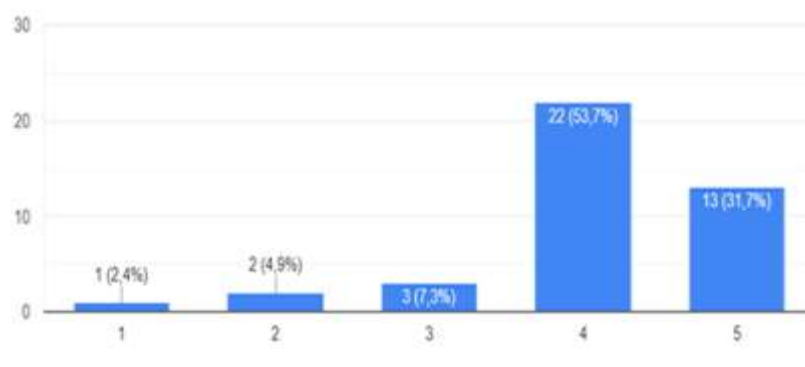
### Results

The researchers obtained data from the 2nd and 4th semesters at Universitas Tidar with 41 English education students as respondents. The questionnaire found showed various perceptions, including strongly agree, agree, neutral, disagree, and strongly disagree. In this section, the researcher shows the answers from all participants of the questionnaire conducted in May 2023. The results of the analysis of the perceptions of all respondents are discussed below.

### Students' Perceptions of Infographics to Facilitate English Learning Activities

#### *Understanding the Material through Visuals, Images, and Symbols*

The first questionnaire wants to know the students' perceptions about material through visuals, images, and symbols. The result of the questionnaire are as follows. Infographics make me understand the material through visuals, images, or symbols. 13 students (31.7%) answered strongly agree, 22 students (53.7%) answered agree, three students (7.3%) chose neutrally, two students (4.9%) answered disagree, and one student (2.4%) answered strongly disagree. A total of 35 students (85.4%) agreed that infographics make them understand the material through visuals, images, or symbols. The first students' understanding are shown in Figure 1.

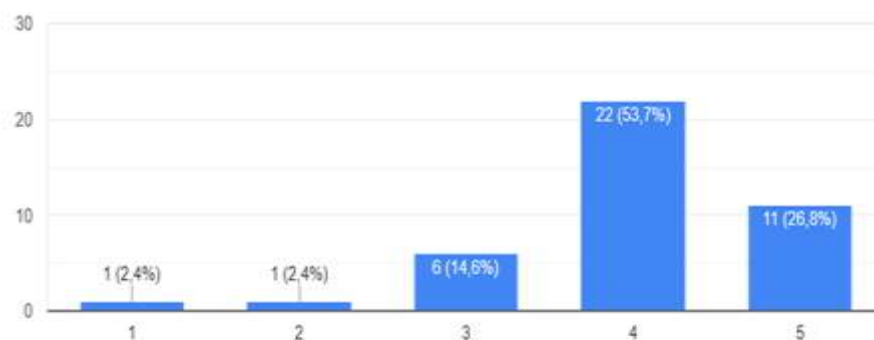


**Figure 1.**

Infographics make me understand the material through visuals, images, or symbols.

#### *Understanding the Material Better through Core and Brief Explanations*

The second question is Infographics make me understand the material better through core and brief explanations. It was found that a student (2.4%) chose to strongly disagree, one student (2.4%) chose to disagree, six students (14.6%) answered neutral, 22 students (53.7%) answered agree, and 11 students (26.8%) answered strongly agree. A total of 33 students (80.5%) agreed that infographics make them understand the material better through core and brief explanations. It is explained briefly in Figure 2.

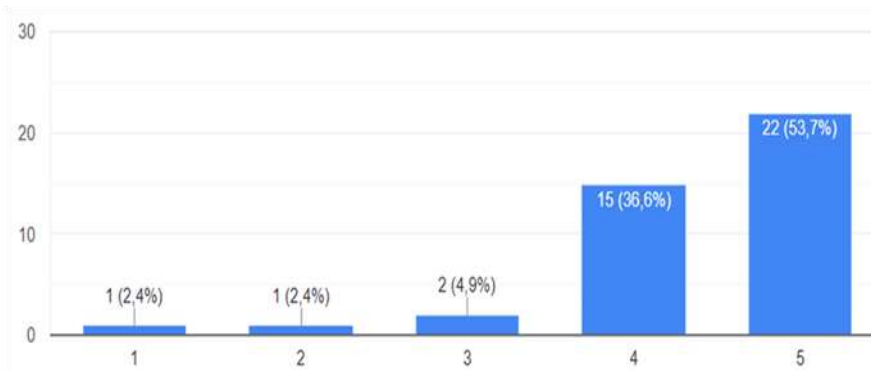


**Figure 2.**

Infographics make me understand the material better through core and brief explanations.

### ***Interested in understanding the material through attractive colors and design.***

The third question is Infographics make me more interested in understanding the material through attractive colors and design. In the questionnaire, it was also found that a student (2.4%) chose to strongly disagree, one student (2.4%) chose to disagree, two students (4.9%) answered neutral, 15 students (36.6%) answered agree, and 22 students (53.7%) answered strongly agree. A total of 37 students (90.3%) agreed that infographics make them more interested in understanding the material through attractive colors and design. Figure 3 show the result as follows.

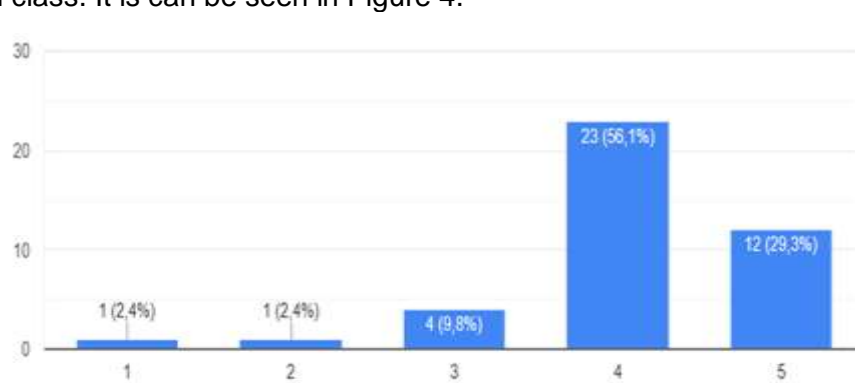


**Figure 3.**

Infographics ake me more interested in understanding the material through attractive colors and design

### ***Make More Focused on the Material Presented in Class***

The fourth question is Infographics make me more focused on the material presented in class. In addition, here it was found that a student (2.4%) chose to strongly disagree, one student (2.4%) chose to disagree, four students (9.8%) answered neutral, 23 students (56.1%) answered agree, and 12 students (29.3%) answered strongly agree. A total of 35 students (85.4%) agreed that infographics make them more focused on the material presented in class. It is can be seen in Figure 4.

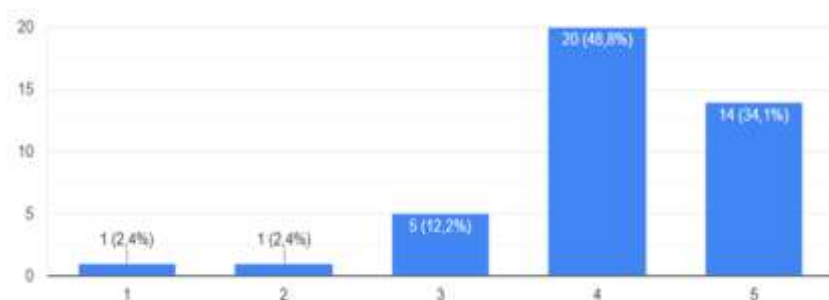


**Figure 4.**

Infographics make me more focused on the material presented in class

### ***Suitable to use during teaching and learning activities.***

The fifth question is Infographics are more suitable to use during teaching and learning activities. The result of the question is that one student (2.4%) chose to strongly disagree, one student (2.4%) chose to disagree, five students (12.2%) answered neutral, 20 students (48.8%) answered agree, and 14 students (34.1%) answered strongly agree. A total of 34 students (82.9%) agreed that infographics are suitable to use during teaching and learning activities. For further, Figure 5 shows the result.

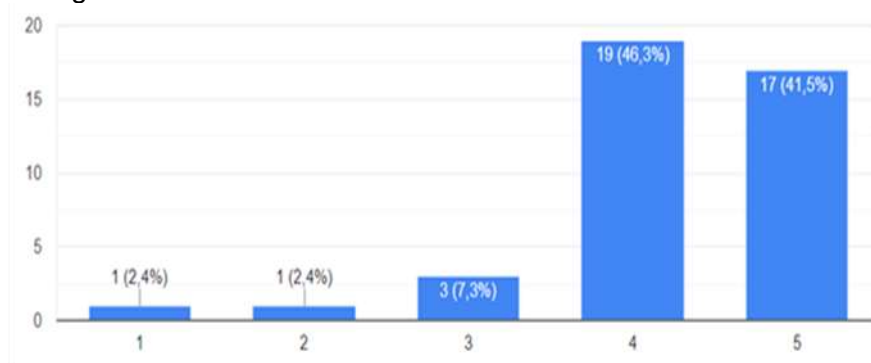


**Figure 5.**

Infographics are more suitable to use during teaching and learning activities.

### ***Can Improve the Creativity to Produce Work Effectively***

The sixth question is Infographics can improve my creativity to produce work effectively. It was informed that a student (2.4%) chose to strongly disagree, a student (2.4%) chose to disagree, three students (7.3%) answered neutral, 19 students (46.3%) answered agree, and 17 students (41.5%) answered strongly agree. A total of 36 students (87.8%) agreed that infographics can improve the creativity to produce work effectively. This is illustrated in Figure 6.

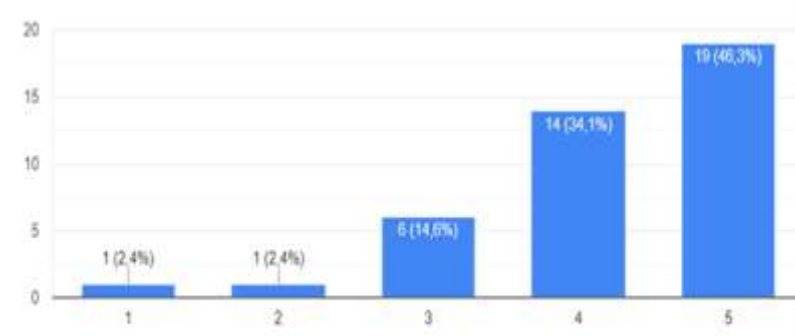


**Figure 6.**

Infographics can improve the creativity to produce work effectively

### ***Can Save the Time to Understand the Material Better***

The seventh question is Infographics save my time to understand the material better. This study showed that a student (2.4%) chose to strongly disagree, a student (2.4%) chose to disagree, six students (14.6%) answered neutral, 14 students (34.1%) answered agree, and 19 students (46.3%) answered strongly agree. A total of 33 students (80.4%) agreed that infographics can save their time to understand the material better. The next figure 7 can be seen as follows.

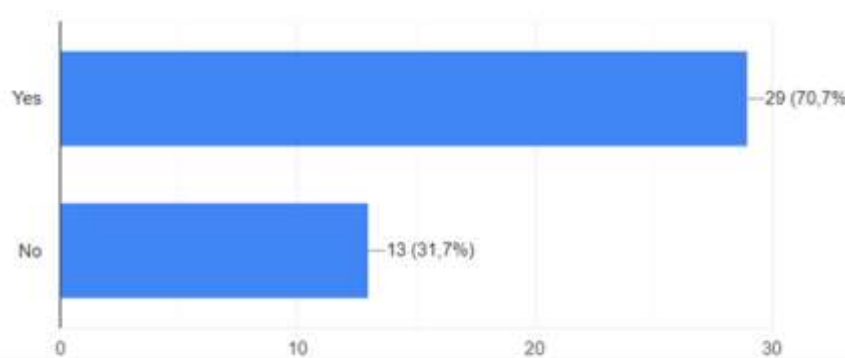


**Figure 7.**

Infographics save my time to understand the material better

### ***Does Infographics Commonly Used in Learning Activities in Class***

The last question is does infographics are commonly used in learning activities in your class. From 41 respondents, the data showed that 29 students (70.7%) agreed that infographics are commonly used in classroom learning activities and 13 students (31.7%) argued that infographics are not commonly used in classroom learning activities. According to the data obtained by researchers from the questionnaires, the data shows that the types of infographics that are often used in learning activities are diagrams, concept maps and power points that contain the core information of the material to be learned in class. Figure 8 show the frequency of infographics used in class.



**Figure 8.**

Are infographics commonly used in learning activities in your class?

### **Discussion**

Based on the results in this study, there were some points that will be discussed in this section. The first is about the understanding materials by students using infographics. Based on the results, there were 53.7% respondents agreed and 31.7% respondents strongly agreed if Infographics made them understand the material through visuals, images, or symbols. Moreover, as many as 26.8% of them answered strongly agree and 53.7% of them answered agree that Infographics made them understand the material better through core and brief explanations. This finding is similar with Dewantari et al., (2021) that Infographics are considered to be a very good as media for teaching English for independent learning. They state that education in this digital era requires new media that can be used effectively to facilitate teaching and learning activities. In addition, students are also expected to be able to develop by having the ability to think creatively, and critically in finding and compiling information and being able to participate in class (Yosintha & Arochman, 2020). The rapid development of technology can make it easier for someone to get information quickly. This has a good impact on students. Students can develop and add insights from various available sources.

The second point is that students were interested and more focused in understanding materials using attractive media. Based on the results, there was A total of 37 students (90.3%) agreed that infographics make them more interested in understanding the material through attractive colours and design. In addition, 85.4% respondents agreed that infographics make them more focused on the material presented in class. In the same opinion, (Parveen et al., 2021) state that Infographics help students understand difficult and complex materials become interesting to be learnt. Infographics help students to present complex data and information into something interesting, easy to read and understand, especially for information with long text, as well as important images and numerical data (Ozdamli et al., 2016; Smiciklas, 2012). Furthermore, based on Khomaria et al., (2017), information that is presented in an interesting way can increase student interest in learning a material.



Next point is about the benefit of using infographics in improving student's creativity. Based on the results, Infographics are more suitable to use during teaching and learning activities. There was a total of 34 students (82.9%) agreed that infographics are suitable to use during teaching and learning activities. Meanwhile, 87.8% of respondents agreed that infographics can improve the creativity to produce work effectively. This finding has similarity with Jaleniauskiene & Kasperuniene (2023) opinion. They state that using infographics, higher education students were provided opportunity to improve personal and professional preparedness skills and capacities such as digital, visual, and information literacy, critical thinking, and creativity at the same time. This is based on the presentation of infographics which is supported by creativity, aesthetics and the right illustration, so that it becomes something interesting and easy to remember. The selection of images, colours, symbols, and colour composition are the basic components in the technique of making infographics (Miftah et al., 2016).

The last, Infographics save the time to understand the material better. 80.4% of respondents agreed that infographics can save their time to understand the material better. This is because Information can be presented in various forms, such as text, images and graphics. Information has 2 categories, which are information in the form of numbers and information containing concepts (Smicklas, 2012). Based on existing research, humans process 75% of information that has a visual form. The research shows that information with visual forms has a large supporting role in the presentation of information. Visuals can help humans to improve their memory. Based on Dunlap & Lowenthal (2016), humans can remember hundreds to thousands of image memories even if only by looking at the image for a few seconds. Infographics are an interesting approach to presenting information in visual and graphical form.

By using infographics, students can process the information obtained with interesting visuals, so that the information to be presented is well processed. The information has been generalized in advance and presented in the form of attractive infographics. The results of using infographics have a good positive impact on student development. The previous research was researched by Noh et al., (2016) had similar results with this study. In the previous research, the authors concluded that the impact of using Infographics as a tool for facilitating learning has a positive impact on students. The similarity between the results of previous research and this study is about how Infographics become an effective media in teaching and learning sessions. In this study learners also agreed that infographics make it easier for them to receive learning materials. Furthermore, the previous study and this research mentioned that infographics can stimulate students' learning creativity. Learners can increase their enthusiasm for learning with creative values that dominate. The results of this study proved that the similarity of the results is very significant with the previous research.

## **Conclusion**

The researchers concludes that the use of infographics in English learning has a significant impact. From the students' point of view, the use of infographic is very beneficial for them to get and understand the content. Embedded with attractive visual displays, it also increases students' creativity and interest in learning. In addition, the use of infographics in learning also does not consume a lot of time for students to comprehend the main points of the lesson. Because Infographics provide information in a brief and simple way that is easily received by students.

Educators can certainly use this to support the developing of learning methods for students. With the advance technology nowadays, infographics can be one of the solutions for new innovations in presenting learning materials. During the classes they have been participating, more than half of the total students indicated that their classes have implemented infographics as a learning tool. It can also be concluded that the application of infographics in classroom is an appropriate and effective method to support the teaching-learning process and should be used in future learning activities.

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