

## **INFOGRAPHIC STRATEGY: THE STRENGTHENING LITERACY AND CRITICAL THINKING SKILLS.**

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### **INTRODUCTION**

The influence of globalization in the field of education is felt through both electronic and non-electronic information such as newspapers, magazines, social media, radio, TV, internet and so on. The rapid development of information technology impacts all aspects, including the field of education. Technology and information applications enable the creation of a global learning environment related to networks for students amid the learning process, surrounded by learning resources and electronic learning services. Therefore, conventional learning systems should be able to collaborate with new ways of learning that are full of technology. *Information technology* can process data and information, including processing, storing, obtaining, compiling and manipulating data in various ways to obtain quality, relevant information. Accurate and timely (Sudirman, 2017).

The development of technology and information that is so significant forces people to change styles and techniques in teaching and learning activities. The world of education requires a new approach used by teachers and students. Students are also expected to be able to find and access information, compile information, participate actively in class, and think critically and creatively (Ozdamli et al., 2016).

In today's digital era, information can be easily and quickly obtained from various sources. This certainly positively impacts students' development and increases knowledge from various sources. However, the ease of access to information can raise new issues. More information can prevent students from concluding efficiently. Information consists of two categories, namely information in the form of numbers and information in the form of concepts. Information is presented in the form of text, images or graphics. Based on research, 75% of the information processed by the human brain comes from visual information. This shows that information in visual form is the primary support in presenting information. Visuals can help to improve memory.

Infographics present data or information in a graphic (visual) form consisting of letters/typography, colours, illustrations, icons and so on. Visual media allows complex/complicated text data to be appropriately reduced (Bühler et al., 2017; Suwondo, 2016). Through infographics, students can process the information obtained so that the information obtained is not directly used raw but is generalized first and presented in infographic form. The results of using this infographic can be used both for independent study and for learning with other students.

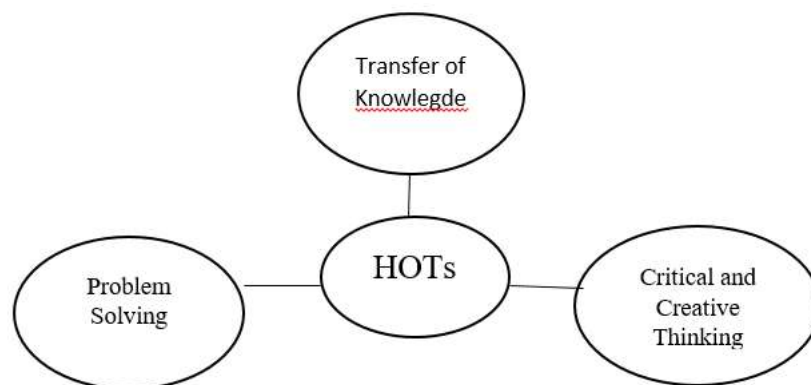
Infographics help visualize complex data and information to be easily read and understood, especially for information with lengthy text, essential images,

and significant figure data. In addition, because the presentation of information is supported by creativity, beauty, and appropriate illustrations, infographics are attractive and easy to remember. Image selection, colour selection, symbol selection, and colour composition are essential to presenting information using infographic techniques. Information presented in an exciting way on infographics can also increase students' interest in learning material.

Understanding the material is related to literacy skills, especially reading. If students' reading comprehension skills are good, then the information obtained in the graphs presented can be understood by students regarding the meaning and findings. Literacy context, in this case, is the ability to read and analyze a reading and understand the concepts behind the writing (Education & Culture, 2021). One way to strengthen literacy is through an infographic strategy.

The learning process through infographic strategies indirectly fosters critical thinking and solves students' problems. Students are required to understand information through data presented in graphs and conclude results. This is part of the challenges of the 21st century, namely the HOTS-based mindset. This aspect of higher-order thinking skills can be seen in the following figure.

**Figure 1. Aspects of HOTS Thinking Skills**



(sumber: Kemendikbud, 2018)

Based on a study conducted by the Language Development and Development Agency in 2018, the results still require much attention. The study, conducted in 34 provinces and involving class X students, showed that most students tested (37.5%) demonstrated reading competence at level 3 (Education & Culture, 2021). This was reinforced by the research results by the Ministry of Education and Culture Research and Policy Center in 2018, which stated that the habit of accessing reading in families, communities, and educational units is still low (with an index value of 28.50). This shows the need for a massive literacy-strengthening movement by providing access to reading and providing multimodal facilities through technological devices to foster a reading culture, particularly by increasing the literacy skills of school members in education units.

The purpose of compiling this article is to examine infographic strategies to improve literacy and critical thinking skills for elementary school teacher education students at Semarang State University through literature studies.

## METHOD

This research includes descriptive research that aims to determine the relationship between one or more variables without comparing or connecting with other variables, independent and dependent variables. The type of research is survey research. Data collection uses a questionnaire with a Likert interval scale. The source of research data is primary data called respondents. The techniques used in carrying out this research are Documentation studies and Field Research. The population in this study were 213 elementary school teacher education students in Semarang, Central Java.

## **DISCUSSION**

### ***Reading Culture***

Reading is the process of pronouncing written words to get their content. When reading, a good reader will understand what he reads. Readers get information or an understanding that has yet to be understood before. By getting information, students can explain the information they get to others in their way. Reading is no longer taught as an effort to develop reading skills technically but rather to read to gain a comprehensive understanding.

The way of thinking and breadth of insight also influences the ability to read. By reading, broad insight, with broad insight, ways of thinking will develop well, and the level of reading ability will be higher. From this statement, the ability of the reader plays a significant role in efforts to improve thinking skills (Friantary, 2019). This is reinforced by Prianto's opinion, which says that the progress (change) of a nation is influenced by the nation's good reading culture (Prianto, 2020).

The following results were found regarding the reading culture found through a survey of 213 respondents.

**Figure 1. Percentage of reading culture based on survey results**

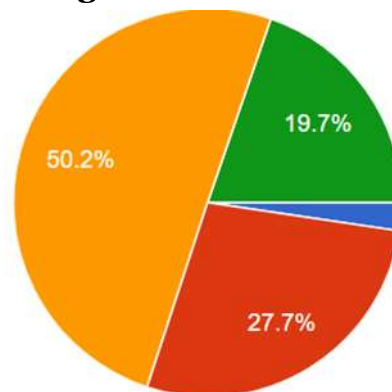


Figure 2 shows that 50.2% of respondents only occasionally do reading activities in their daily lives, 27.7% rarely read, and 19.7% regularly do reading activities. Judging from this percentage, it still indicates that the reading culture and reading interest of the respondents need to be improved. This is reinforced by a report from PISA (2018), which states that Indonesia is in the bottom 10 of 79 countries (Nur'aini et al., 2021).

### ***Writing Culture***

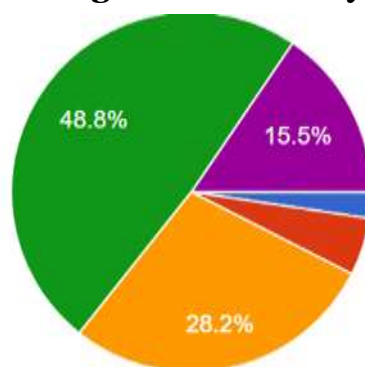
Writing is conveying messages, expressing ideas or thoughts in the mind through written language so that others can read and understand them. Writing

is not just a motor activity but also involves one's mentality. Writing is a medium for communicating (Martha & Situmorang, 2018).

Writing is a type of written language skill that is productive. Writing is the most challenging language skill among other types of language skills. This is because writing is not just copying words and sentences but also developing and expressing thoughts in an orderly structure. In other words, writing is an activity of systematically expressing ideas/ideas with complex abilities through active, productive activities in the form of symbols of letters and numbers so that others can understand them.

The results are shown below based on the survey conducted on 213 respondents related to writing culture.

**Figure 2. Results of the Writing Culture Survey**



Based on Figure 2, the following information is obtained, as many as 48.8% of respondents carry out writing activities when there is an assignment from school, and 28.2% are not interested in carrying out writing activities independently. In comparison, 15.5% are happy to carry out writing activities, whether it is a task from school as well as the wishes or preferences of the respondents. The percentage of respondents regarding the writing culture indicates that respondents, especially students, still need to be higher.

### ***Characteristics of Respondents***

This research was conducted by distributing questionnaires online via Google form to elementary school teacher education students. These characteristics are based on the gender and age of the students.

#### ***Characteristics by sex***

The first characteristic of the respondents in this study was categorized based on gender. Samples were categorized according to male and female sex. The following is a table of the characteristics of respondents based on gender.

**Table 1**

#### **Characteristics of Respondents by Gender**

<b>Gender</b>	<b>Total (People)</b>	<b>Percentage</b>
<b>Female</b>	190	89,2%
<b>Male</b>	23	10,8%

Based on Table 1 above, the majority of respondents from this study were female. As many as 89.2% or 190 respondents who filled out the questionnaire were women. In contrast, as many as 10.8% or 23 people who filled out the questionnaire were men. From the table above, it can be seen that women do more literacy activities than men.

**Age**

Respondents from this study were then categorized based on age. Research respondents aged 18-22 years. The following table shows the characteristics of respondents based on their age.

**Table 2.**

**Characteristics of Respondents by Age**

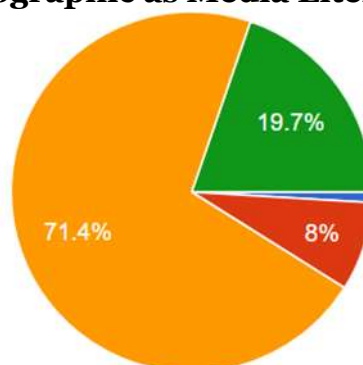
Age	Total (People)	Percentage
18	5	2,3%
19	30	14,1%
20	94	44,1%
21	66	31%
22	18	8,5%

**The Effectiveness of Infographic Strategy as Media Literacy and Critical Thinking**

In this modern and digital era, there is a need to deliver practical and exciting information to students, including information to build critical thinking skills. One way is through an infographic strategy (Solicitor et al., 2019). The infographic technique used in this study is a static infographic that contains messages to protect and preserve the surrounding environment.

Based on survey results related to infographic strategies as literacy media can be seen in the following diagram.

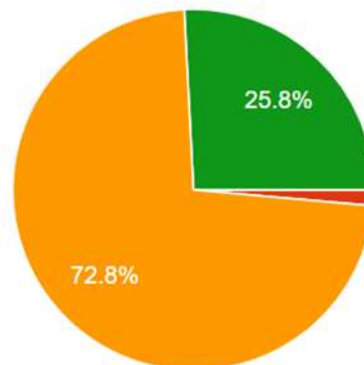
**Figure 3. Effectiveness of Infographic as Media Literacy**



Based on the diagram 3, it can be seen that 71.4% or 152 students stated that the infographic strategy was effective as a literacy medium; 19.7%, or 42 students, said it was very effective; 8% or 17 students, said it was pretty effective, while 0.9% or two students said it was not effective. Judging from the percentage of the

effectiveness of the infographic strategy in strengthening literacy, it is very effective for elementary school teacher education students in Semarang.

**Figure 4. Infographic Strategy as Critical Thinking**



Based on Figure 4, it can be seen that 72.8% or 155 students stated that the infographic strategy was effective for developing students' critical thinking skills, 25.8%, or 55 students, said it was very effective, and 1.4% or three students said it was not effective as a suggestion for developing abilities Student critical thinking.

### CONCLUSION

Based on the background of the problem and discussion, an infographic strategy is a form of strengthening the literacy and critical thinking skills of elementary school teacher education students in Semarang. This can be seen in each component of the discussion. The reading culture component showed that 50.2% of students had carried out literacy activities daily, and 48.8% had carried out a writing culture whether they had assignments or not. Meanwhile, regarding the effectiveness of infographic strategies, 71.4% of these strategies are effective for increasing students' literacy skills, and 72.8% are very effective for developing students' critical thinking skills.

Judging from the characteristics of students based on gender and age, it can be seen that 89.2% are dominated by female students who diligently carry out literacy activities in their daily lives, be it college assignments, hobbies, and free time. Meanwhile, in terms of the average age of students who are 20 years old, they dominate literacy activities and develop critical thinking skills. They think infographic strategies can help foster literacy activities and critical thinking skills.

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