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Students' Metacognitive Reading Strategies in Analyzing Health Analyst Reading Text at First Semester of Bina Mandiri University Gorontalo

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A B S T R A C T

The research investigates metacognitive reading strategies that use by health analyst students' when reading health analyst text which containing technical vocabulary and sophisticated conceptual elements. The participants of this research are health analyst students' who learned English for Health Analyst at first semester. They are 30 students of one classroom. This research investigated successful learner approaches by combining interviews with health analyst students with classroom observation and document. Students use various strategies to grasp health analyst material by metacognitive process such as planning (pre reading), monitoring (while reading) and evaluating (post-reading). The findings of this research where fifteen students were used pre reading, like systematic terminology, ten students were used contextual comprehension in while reading and five students were used Collaborative and contextual comprehension in post reading.

Keywords: *Reading Strategies, Health Analytics, Systematic Terminology, Comprehension Technique*
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INTRODUCTION

Proficiency in English is vitally significant in our current globalized era, as it serves as the primary language (Jiajing, 2007). an important competence is understanding health analysis. Therefore, students need special research areas.The health analysis materials is also important for the professional success of science (Thongwichit & Buripakdi, 2021).

Madhumathi and Ghosh (2012) examined the key differences in reading strategies, second language reading areas, and the use of gender-based reading strategies under Indian university students. They looked at how student reading services refer to reading strategies (global, support, problem solutions) to understand academic reading materials. They examined the data via example t-tests to determine meaningful differences between the three categories: global, support, and problem-solving strategies. The purpose of this study is to bridge this knowledge gap by qualitatively examining student experiences using health analysis texts. The purpose of this study was to examine the natural learning strategies students create when working with academic texts. This study shows that from a student's perspective scientists can contribute to acquiring specific methods for employability to understand the technical aspects of health analysis.

This research goes beyond theoretical concepts to concentrate on real-world issues that those in the health field encounter while navigating the existing healthcare system. Healthcare professionals need to master analytical text comprehension skills because modern healthcare uses data-driven decision-making systems. Instructors should use knowledge of student competency development to build improved instructional methods to enhance domain-specific literacy skills.

The research questions of this study primary involved of two sections:

What reading strategies do students employ when encountering unfamiliar terminology in health analytics texts?

In what ways do collaborative learning practices influence students' comprehension of technical health analytics material?

In addition, the purpose of this research are:

Identifying students' reading strategies while encountering unfamiliar terminology in health analytics texts.

Identifying students' collaborative in comprehending of technical health analytics material.

Literature Review

Cognitive Reading

Reading, as a cognitive activity, demands that readers utilize their metacognitive knowledge and adopt intentional strategies (Karbalaei, 2011). These approaches, known as metacognitive strategies, involve conscious methods through which students oversee their reading processes, including assessing the effectiveness of the cognitive strategies they employ.

Metacognitive in Reading

Iwai (2011), who divides metacognitive strategies into three separate categories: planning (before reading), during reading, and assessment (after reading).

Planning strategies are focused on setting a purpose for reading, activating prior knowledge, previewing the text, and recognizing its structure.

Monitoring strategies, employed during the reading process, involve self-questioning, reflecting on the material, contextualizing meanings, discerning key ideas, summarizing content, and making inferences. Finally, evaluating strategies pertain to considering how to apply what has been read to different contexts, as well as identifying with the author, the narrative, or the characters within the text.

Reading Comprehension Text

Throughout content comprehension readers integrated newly encountered textual facts with their present information to form a well prepared intellectual representation of the text (Diakidoy et al., 2011). The ability to create both small-scale local connections between text elements and broader global coherence patterns in the text defines the act of text comprehension (Diakidoy et al., 2011). The measure of local coherence identifies how well readers make conceptual connections between groups of propositions that occur near each other.

Analyzing comprehension entails seeingconnections between separate text segmentst o shape thematic know-how of the entire material as Diakidoy et al. (2011). The process of resolving any mental representation incoherence relies on current text processing along with applicable prior knowledge that working memory activates after reading. Good comprehenders deploy strategic comprehension monitoring behaviors including paragraphing and generating to repair missing information in their mental model during coherence breaks (Diakidoy et al., 2011, Leopold and Leutner, 2015). When parsing textual ideas for enhanced comprehension readers transform words into their personal language to reach understanding of difficult language or unknown contexts (Gilliam et al., 2007 & Stevens et al., 2020).

METHOD

This research used qualitative descriptive approach. *The research data originated from multiple data collection methods*.

Participants

This research used thirty students of D3 Health analyst study program in analyzing health analysis texts.

Instruments

The research used two semi-structured interviews that lasted between 45 to 60 minutes each with every participant.

Procedures

First, interview asked about reading methods. Second, interview used verbalization protocols when students analyzed specific health analytics materials. Second, the data was collected by submitted their health analytics study documents and annotated material together with their notes they took from reading these texts. The participants kept reading journals during a two -week period to document their reading experiences including their difficulties and successful methods.

Data analysis

In Analysing the data, the research data obtained through transcripts and notes and journals underwent thematic analysis according to Braun and Clarke's (2006) proposed six-step method.They are 1) Become familiar with data, 2) Generate initial codes, 3) Search for themes, 4) Review themes, 5) Define themes, and 6) Write-Up. The analysis used constant comparison to develop categories that reflected how participants described their learning methods together with their systems for managing academic terminology. The researchers verified their interpretation accuracy through member checking by presenting their initial research findings to participants for their confirmation.

FINDINGS AND DISCUSSION

Findings

Students' Metacognitive Reading Strategies

Reading strategies that involve metacognition help students reach essential comprehension levels when interacting with texts. Through these strategies readers gain the power to reflect upon their mental activities before reading and throughout the process and after completing to adjust their approach and understand better. This study investigates student usage of metacognitive reading strategies at three important reading stages; a) pre-reading, b) while-reading and c) post-reading.

Pre-Reading Strategies

This section explained how students applied the pre reading activity involve systematic management of terminology. The activity encourage students for using personalized glossaries, digital tools, and visual maps. This section explained how students applied the pre reading activity involve systematic management of terminology. The activity encourage students for using personalized glossaries, digital tools, and visual maps.These activities function as preparatory tools for accessing main health analytics texts by promoting understanding while introducing essential vocabulary and fostering conceptual models for interpretation. As data found that fifteen students applying three tools in pre reading stages. For glossaries, there were three students included St 5, St 8, and St 22.

Using Glossaries

Student	*Statement*
St 5	The dictionary increases my vocabulary and makes it easier for me to understand new words. books."
St 8	"I like using a vocabulary dictionary because I lack the time to look up meanings in different book"
St 22	"Glossaries make reading easier since I can find descriptions quickly."

For digital tools, there were seven students included St 2, St 7, St 30, St 13 ,St 25., St 11 and St 10.

Using Digital tools

Student	*Statement*
St 2	"Digital tools make learning more fun and interactive."
St 7	Sometimes, technical glitches disrupt my studysession."
St 30	"Using digital tools allows me to collaborate easily with classmates online
St 13	"Digital tools help me organize my notes better."

St 25.	"I prefer using apps and online resources because I can learn anywhere."
St 11	"Sometimes, I discover the definitions confusing if the words are too technical."
St 10	"Using glossaries saves me time when reading because I can explain terms right away."

Lastly, visual maps, there were five students included St 1, St 6, St 12, St 23, and St29.

Using Visual Maps

Student	*Statement*
St 1	I can better understand the relationships between various concepts when I use visual maps.
St 6	"I think it easier to retain concepts when I create a mindmap."
St 12	"Visual maps make complex topics easier to comprehend."
St 23	"Sometimes, generating maps takes too much time."
St 29.	"Using visual maps keeps me prepared and engaged during studying."

Figure 1 Pre-reading (Systematic terminology comprehension)

Step 1: Calculate the Percentage for Each Activity

Total number of students: 3+7+5=153 + 7 + 5 = 153+7+5=15

Using Glossaries:

$\frac{3}{15} \times 100 = 20\ \%$

Using Digital Tools

$\frac{7}{15} \times 100 = 46.7\ \%$

Using Visual Maps

$\frac{5}{15} \times 100 = 33{,}33\%$

To illustrate the percentage, it showed in pie chart

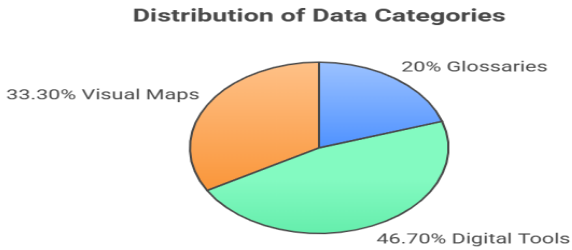

Figure 1.1 (Using Glossaries, Digital tools and Visual maps)

While Reading

This Approach involved a team- focused comprehension strategy tied to the context. Two tasks employed techniques that enabled to engaged with write material, enhancing their grasp of the retention of information. Here, some expressions of students while reading stages

Students	Expressions	Theme
St 4	*When I discuss ideas with my peers, I understand the topic from some perspectives ."*	Collaborative
St 20	*"I understood things better when they were connected to everyday life."*	Contextual
St 9	*Group projects make me feel sure of myself because I can share and learn with others."*	Collaborative
St 14	*I remember better when I connect what I'm reading to my past experiences."* | *Memory is aided by relating to personal context.*	
St 22	*I work with classmates helps me understand concepts I struggle with on my own."*	Collaborative
St 20	*When using practical issues with content, I understand it better and it stays longer. "*	Contextual

St 15	"*Discussions on topics with my classmates motivate me to stay focused during their research.*	Collaborative
St 17	"*It helps to reduce stress if you don't know anything with others.* "	Collaborative
St 24	When I use examples in the real world when I read, I am keen on learning because it feels like that.	Contextual
St 28	"I remember well when I read with group discussions and practical examples.	collaboration and context

To illustrate the while reading strategy, it showed in pie chart as follow;

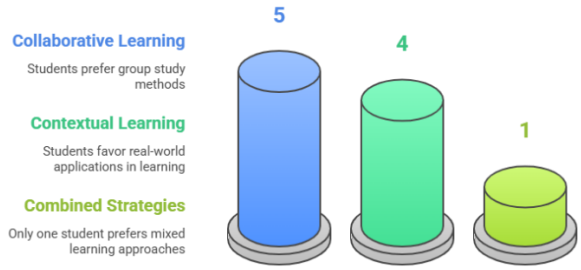

Figure 2.1 While Reading Strategy

Post Reading

Students employed post-reading strategies less often as they focused mainly on content reflection and summary of main ideas followed by personal understanding evaluation. Students who utilized these strategies demonstrated improved ability to recognize misunderstandings in their comprehension which led them to clarify details through supplemental resources for better learning success. It was found that five students were difficult in detheir strategy in this part involved St 3, St 16, St 18, St 21 and St 26. To comprehend the result, here the diagram

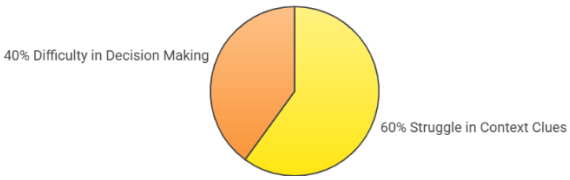

Figure 2.2 Post Reading

Discussion

Students' Metacognitive Reading Strategies

Pre- reading (Systematic Management of Terminology)

In this part, Students who adopted pre-reading activity such as Systematic Management of Terminology. This activity focused on how students using personalized glossaries, digital tools, and visual maps. These activities function as preparatory tools for accessing main health analytics texts by promoting understanding while introducing essential vocabulary and fostering conceptual models for interpretation. It was found, there were fifteen students were used glossaries, digital tools and visual maps in pre reading stages. It was connected to Iwai (2011), who divides metacognitive strategies into three separate categories: planning (before reading), during reading, and assessment (after reading).

While Reading (Contextual and Collaborative strategies)

In this part, Students who used while -reading activity such as Contextual and Collaborative strategies. This activity focused on how students "participate deeply with text content which enhanced both their comprehension depth and memory of the subject matter".It was found, there were fifteen students were difficult in while reading stages. It was linked to Iwai (2011) categorizes metacognitive strategies into three distinct groups: planning (pre-reading), while reading, and evaluating (post-reading).

Post Reading

Students employed post-reading strategies less often as they focused mainly on content reflection and summary of main ideas followed by personal understanding evaluation. Students who utilized these strategies demonstrated improved ability to recognize misunderstandings in their comprehension which led them to clarify details through supplemental resources for better learning success. When parsing textual ideas for enhanced comprehension readers transform words into their personal language to reach understanding of difficult language or unknown contexts (Gilliam et al., 2007 & Stevens et al., 2020).

Students' Contextual and Collaborative Learning Practice

In this part, students who used contextual and collaborative ways in understanding the text where used while reading strategies, because they did deep critical thinking in analyzing the text. They need an extra memory to remember the key words, analyzing context of text as whole. This finding was supported to It was linked to Iwai (2011) categorizes metacognitive strategies into three distinct groups: planning (pre-reading),while reading , and evaluating (post-reading). Besides, Good readers play strategic comprehension monitoring behaviors including paragraphing and generating to repair missing information in their mental model during coherence breaks. Moreover, effective readers utilize specific strategies for monitoring their understanding, which includes organizing text into paragraphs and creating content to fill in gaps in their mental representation when they encounter breaks in coherence (Diakidoy et al., 2011, Leopold and Leutner, 2015). It can be said that good reader as a good comprehenders in learning or reading text activity. Besides, the bad reader as bad comprehender, where they have less or even low analysis of reading health analyst text.

In step of after reading, students sometimes ignoring for applying the way of focusing on material and summarized the key concepts, subsequently conducting a self-evaluation of their comprehension. Students who used these strategies showed improved ability to recognize misconceptions in their understanding, thereby revealing details through additional resources for better learning success. In Interpreting the idea from text, readers should having their own prior knowledge to comprehend unpredicted context.

CONCLUSIONS

The students' strategies in reading health analysis text are challenging. However, health analyst students are critically in analyzing and applying their own strategies while reading the text. From 30 students, each students have unique reading strategies and solve their difficulties while reading. The use of systematic terminology by using glossaries, digital tools and visual maps are their strategies in solving their problem in pre reading activity and discuss on topic based on real situation by group is their way to comprehend the text and share the idea of analyzing text such as research articles or academic journals.

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