ENGAGING PRE SERVICE TEACHERS IN MULTIMODAL READING WITH LEARNING LOGS: AN ACTION CLASSROOM-BASED RESEARCH

PELIBATAN GURU PRA-LAYANAN DALAM BACAAN MULTIMODA DENGAN PEMBELAJARAN LOG: SEBUAH PENELITIAN TINDAKAN KELAS

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Keywords:	Abstract
Action research, disciplinary Vocabulary learning, Intersemiotics, Multimodal reading	*Students' reading comprehension on disciplinary texts commonly involves the interaction between the cognitive aspect and the text itself, but little is known how it is carried out through multimodal reading. To fill this practical void, this article reports the findings of classroom action research of the pre-service teachers learning disciplinary vocabularies through different modes of meaning, the socially and culturally shaped resources or semiotic structure for making meaning: video viewing and graphic organizers. This study proposes that multimodal reading has the potential to promote the role of student teachers as designers and navigators in reading English disciplinary texts. Pedagogically, this multimodal engagement not only creates interactive content learning but also it encourages the students to become autonomous language learners. In addition to multimodal reading activities, the students were motivated not only to learn about language but also to learn through language. Moreover, multimodality reading tasks can scaffold comprehension and production of the academic language of the students. Finally, students who are engaged in cognitive work in content areas (e.g., statistics for second language research) have the motivation to learn a language that supports their learning. Multimodality reading tasks can support students 'communication, increasing students' academic writing and students' academic vocabulary development as well.*

Kata Kunci:	Abstrak
Penelitian tindak kelas, Pembelajaran kosa Kata displiner, Intersemiotik, Bacaan multimodal	*Kemampuan pemahaman bacaan siswa tentang teks-teks displiner biasanya melibatkan interaksi antara aspek kognitif dan teks itu sendiri. Namun, banyak yang belum terungkap tentang bagaimana hal itu dilakukan melalui bacaan multimoda. Untuk mengisi kekosongan praktis ini, artikel ini bertujuan untuk mengungkap hasil penelitian tindak kelas para guru pra-layanan yang mempelajari kosa kata melalui berbagai mode makna, sumber yang terbentuk secara sosial dan budaya atau struktur semiotik untuk membuat makna melalui menonton video dan grafic organizer. Hasil penelitian menunjukkan bahwa bacaan multimoda berpotensi untuk meningkatkan peran guru siswa sebagai perancang dan navigator dalam membaca teks-teks displiner Bahasa Inggris. Secara pedagogis, keterlibatan multimoda ini tidak hanya menciptakan pembelajaran konten yang interaktif, tetapi juga mendorong siswa untuk menjadi pembelajar mandiri.*

INTRODUCTION

Multimodal literacy is now a widely established concept that refers to the ability to construct meanings by interconnecting texts with different sign systems or semiotic resources. With this in mind, readers are learning to navigate a progressively robust system of symbols and patterns in order to become literate. Today's disciplinary texts require readers to comprehend information from an extensive range of images integrated with printed materials. This means that readers should deal with the inter-semiotic skill, the "circulation of meaning between different sign systems; for example, the image includes reference to the text and the text referring to the image." Aktulum (2017). The term literacy no longer solely signifies linear reading and writing (i.e., print literacy); instead, literacy has become pluralized, with definitions opening up to recognize the diverse and interconnected ways through which humans can and do make meaning (Jewitt & Kress, 2003). It is within this context that the concept of multimodal literacy has arisen.

The phenomenon has also become highly relevant for language pedagogy since "the internet has become the center of today's literacy and life, it has changed the way we access, use, and exchange information in our daily lives" (Tungka, 2018). The emergence and integration of Information and Communications Technology (ICT) and accompanying multimodal learning has also had an impact on higher education. As Sankey et al. (2010) reveal, we have seen an "increasing use of multimedia in higher education teaching that has provided many opportunities to present multiple representations of content (text, video, audio, images) to cater more effectively to the different learning styles and modal preferences of an increasingly diverse student body". In tune with contemporary neuroscience research which has revealed that multimodal learning is beneficial (Fadel & Lemke, 2012), several studies have proved that students are more comfortable and perform better in multimodal learning environments that provide for their major learning style (Paxton et al., 2017; Kharb et al., 2013). Previous research provides essential information on multimodal learning in higher educational contexts. For example, Roberts (2017) investigated the use of images in teaching and learning activities; Walker et al. (2011) studied the use of video and audio recordings to enhance student learning in an introductory biology class, or Costley et al. (2016)

looked at students' engagement when learning through video in online environments. Another study by Liu (2016) who looked at how video blogs can support learning.

Students' reading comprehension on disciplinary texts commonly involves the interaction between the cognitive aspect and the text itself, but little is known how it is carried out through multimodal reading. To fill this practical void, this article reports the findings of classroom-based research of the pre-service teachers learning disciplinary vocabularies through different modes of meaning, the socially and culturally shaped resources or semiotic structure for making meaning: video viewing and graphic organizers as the inter- semiotic practice. Therefore, the present study examines the following questions: To what extent do the students engage with multimodal readings in developing their specialized vocabulary?

RESEARCH METHODS
Research Context and Participants

The participants of this research were pre-service students, in sophomores, majoring in the English education program in Karawang, West Java, Indonesia because of two considerations: (1) this site offered Statistics for Second Language Research and (2) the author got entry access to this school. The Seventy students (50 females and 20males) who enrolled in the course of Statistics for second language research participated in this project. 70 participants agreed to engage in two main activities: (1) Reading print-based texts and reading digital-based texts (video viewing) and completing the text to the reading logs, and (2) creating graphic organizers used to deconstruct complex concepts and clarify the content meaning.

Research Design

To address the research question, the nature of the present study employed action research aiming as Kemmis, Mc Taggart, and Nixon (2014) emphasized that action research focuses on – "changing people's practices, their understandings of their practices, and the conditions under which their practices are carried out." Furthermore, Kemmis, Mc Taggard, and Nixon (2014) argued that action research itself is a social practice, a practice-changing people practice, which cannot ignore the theoretical terrain that might help participants to work from a critically informed perspective on social life. Following these justification, multimodal reading used in this study was a way to change and improve the student's participants in learning academic language. In this research, one of the authors taught two sections of statistics for second language research, i.e., descriptive statistics and inferential statistics.

Figure 1. Cycle of Action Research
(Adapted from Kemmis, McTaggart, & Nixon, 2014)

Instructional Procedures

All the students went through two stages of learning activities, such as preparation and engaging meaning-making oriented learning tasks. The first stage aimed to prepare participants for the next stage engaged tasks they achieved. In the first meeting, the authors explained the purpose and the process of data collection needed for this project. The roles as participants of the project were also elucidated, including their rights of asking questions during this project, choosing appropriate dates and times of conducting the interview, and completing assignments in the project as their responsibilities. After sharing information about the project and their roles, the authors requested them to sign consent (agreement) forms concerning ethical issues initiated by reading them in detail to make sure that their participation/engagement and students' works in this course would be used for publication purposes.

In the meeting, the authors asked the participants to engage in a range of meaning-making oriented learning (reading and writing) tasks as illustrated in figure 2.1. Before the participants commenced reading the chosen textbooks in printed forms or digital outside of class time, the teacher explained the reading logs in which one of them focused on how much time students read and how much information they learned. These tasks complemented each other as the teacher and the participants worked on the tasks. The critical goal of the tasks was to expose the participants to a variety of texts and engage them in different meaning-making endeavors or activities such as reading log as illustrated in figure 2.2 and graphic organizer, graphic organizers, rewritten texts with simplified language. Graphic organizers (GOs) are visual displays that make information easier to understand and learn (Dye, 2000). It provides a holistic representation of facts and concepts and their relationships within an organized frame. GOs have been applied across a range of curriculum subject areas and research-based applications have demonstrated their classroom utilization in the sciences, social studies, language arts, and mathematics. Coburn (2003) defines graphic organizers as diagrams that represent the relationships between facts, ideas, and concepts. They come in many forms, including flowcharts, webbing, concept mapping, and matrixes. They are not organized in a linear format according to a sequence like traditional outlines; instead, they convey relationships through a visual format that are linked and ordered through a

conceptual framework. By completing these tasks, the teacher hoped that the participants could use English as a tool for honing their academic language.
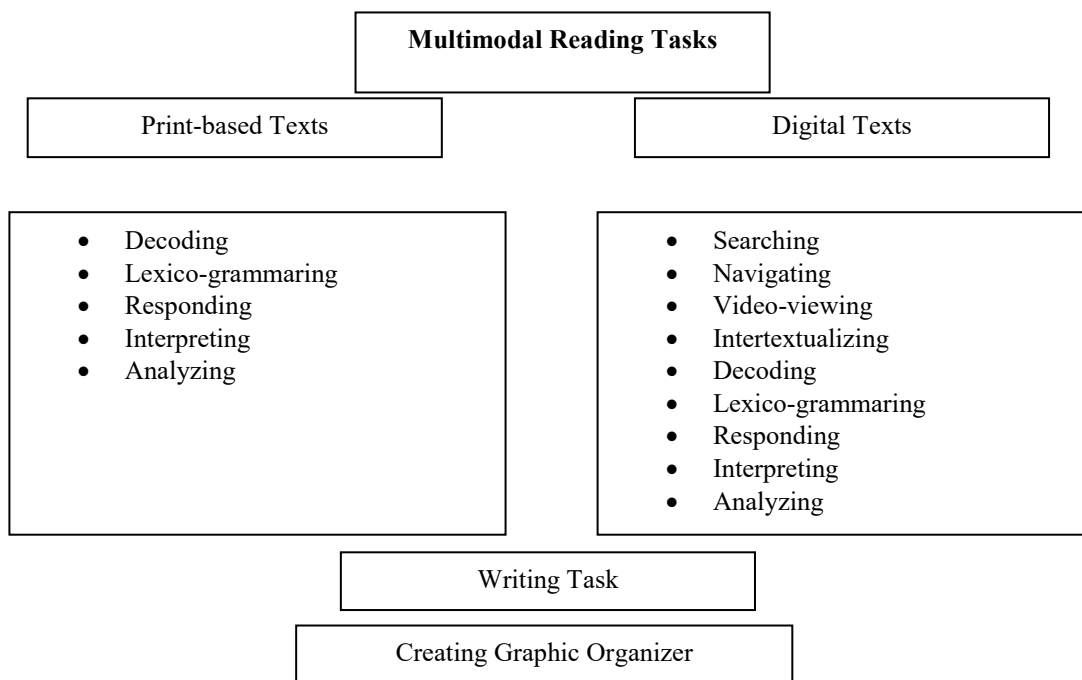
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            ┌──────────────────────────────┐
            │   Multimodal Reading Tasks   │
            └──────────────────────────────┘
    ┌────────────────────┐        ┌────────────────────┐
    │  Print-based Texts │        │    Digital Texts   │
    └────────────────────┘        └────────────────────┘
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Print-based Texts:
- Decoding
- Lexico-grammaring
- Responding
- Interpreting
- Analyzing

Digital Texts:
- Searching
- Navigating
- Video-viewing
- Intertextualizing
- Decoding
- Lexico-grammaring
- Responding
- Interpreting
- Analyzing

Writing Task

Creating Graphic Organizer

Figure 2. Multimodal Reading Tasks

Name   :
ID   :
Group   :
Book title/Video Title   :

Week/date	Minutes	Pages(Chapter/Section/Paragraphs	A Summary of the texts	Grammar Learned (Please include sample sentences you like)	Vocabulary learned (Please include sample words you find unfamiliar	Key Concepts (Please pick 5 critical key concepts you do think the points

Figure 3. Reading Log
Sustained Content-Based Extensive Reading
(Adapted from Widodo, 2015)

The second stage. The meaning-making tasks data were collected during the second stage of the project. The second stage consists of five meetings for data collection. To ensure the validity of the data, students' reflective journals, photo voices, interview, and students' artifacts reading logs and graphic organizers, were conducted as methods of data collection in this study, while the member checking procedure was also implemented at the end of the data collection sessions (Bowden & Green, 2005; Creswell, 2012; Richards, 2003; Tungka, 2018). In this session, the researcher told students that they were assigned to read some topics of statistic text from print-based texts referred to read the electronic version of the textbooks because they had a personal laptop and digital-based texts by video viewing. Then, the students completed the

graphic organizer accordingly. Google was chosen by the participants as the search engine website due to its familiarity and simplicity. The participants also chose the images provided in the search feature of Google website for their reading materials. (Tungka, 2018).

FINDINGS

Based on in-depth data analysis informed by Braun and Clark's thematic analysis, the authors drew two emergent finding themes in addressing the research question: To what extent do the students engage with multimodal readings in developing their specialized vocabulary?

These themes were frequently identified from the students' reflective journals, interviews, photovoice and students' artifacts. A reflection is a tool for action and change because it helps enhance the self-awareness of experiences (Widodo, 2015). In this research, students wrote reflecting journals as a tool to reflect on what they experienced in their class activities and their engagement in the course. These findings theme are to include students' reflections on engaging multimodal reading.

Students' Reflections on Engaging with multimodal reading

The participants implemented meaning-making- oriented readings tasks using both printed texts and digital texts as efforts to complete the reading tasks. The ultimate aim of the tasks was to expose the participants to various texts and engage them in different meaning-making activities (Widodo, 2015).

The students' view of multimodal reading activities of content or academic language was convinced. All of the students enjoyed engaging with these activities out of the class. The following three students 'vignettes provide more empirical evidence of the interest of multimodal reading activities in learning academic language or specialized vocabulary.

Table 1. Students' Reflection on Engaging Multimodal Reading Tasks

Participant	Diary Entries
Hana (Pseudo-name)	In the early stages, I did multimodal reading tasks. When I read the book entitled *Practical statistical for educators* I found unfamiliar words like central tendency, mode, median , and mean. I used my digital dictionaries or free access to corpus such as http://www.wordandphrase.info and http://skell.sketchengine.co.uk/run.cgi/skell# to solve this lexical problem. When I found unfamiliar complex clauses I consulted these with my teacher to assist me to overcome this problem. I found that by consulting these difficult words with my digital dictionaries and corpus saving my time and I had the opportunity to know the exact meaning of the words.
Anton (Pseudo-name)	I did multimodal reading activities for the first time. I had to manage my reading time. When I found unfamiliar words I just attempted to understand the main points of the text using reading logs. If these unfamiliar words were too difficult to understand, I would consult these words with my lecturer. By doing multimodal reading tasks and completing a reading log, I was motivated to learn academic English. I enjoyed and

	learned a lot from these multimodal reading activities.
Maria (Pseudo-name)	When I found difficulty with the concepts of the content, I highlighted key concepts and vocabulary, and the connection among the concepts by using graphic organizers. So I could easily understand and I engaged with the topic of the contents. By using graphic organizers in multimodal reading activities, I could develop my understanding of academic language and I could highlight and note taking the academic language independently.

Multimodal reading as social networking activities for performing critical thinking and creative academic language pedagogy

From a traditional viewpoint, aspects such as vocabulary knowledge, background knowledge (schemata), knowledge of grammar, metacognitive awareness, syntactic knowledge, and learning strategies are crucial in comprehending texts (Widodo, 2015).

DISCUSSION

The data of Students' Reflections on Engaging with multimodal reading show that the participants used semiotic tools such as digital dictionaries and corpus when they find difficulty unfamiliar words and clauses. The participants also recognized the teachers as a resource person. The participants also reported that they enjoyed doing multimodal reading activities. They felt that they were really engaged in building and developing their content knowledge while developing their English ability.

In addition, they responded that graphic organizers (GOs) allowed them to achieve a better understanding of the content text because GOs can improve students' comprehension. The graphic organizers appear to provide readers with a previous insight of how concepts are structured; through the illustration of the organization of the text, they are likely helping students make use of different types of textual and possibly content schemata to confront the text before they engage in the reading process. Graphic organizers serve as mental tools or semiotic mediators (Vygotsky,1962) to help the learner remember.

An additional benefit expressed by the students is that graphic organizers helped them distinguish between main ideas and supporting details. According to this, graphic organizers seem to help students make a more selective reading and set priorities for approaching the text. This can simplify the reading process and provide support, particularly for students with a lower command of the language.

Further, students explained that graphic organizers were useful for understanding more easily how the text switches from one concept to another. Again, they mentioned the visual representation of the content text flow of ideas as the factor contributing to lessening the difficulty of the text, both before and while reading. Gill (2008) claims that

> … comprehension can be affected by the reader's interest in the background knowledge of the topic, by strategies the reader knows how to use, and even by the reader's physical and emotional self-image. Style, layout, and organization of the text; the difficulty of vocabulary, concept load, and even the presence or absence of illustrations can also affect students' comprehension.

Finally, students reported that their overall comprehension of the text had also improved through graphic organizers since the opportunity to visualize the structure of the concepts had compensated for their lack of vocabulary. Consequently, graphic organizers work both for helping to understand a text better in a general way and for providing a certain sense of motivation. To guarantee that there is interaction between the reader and the text, An (2013) highlights the role of schema theory in reading

comprehension. She proposes that a reader is involved in a process of constructing meaning through the interaction of pertinent schemata and elements of the text and that these different types of schemata should be activated: formal schemata related to the rhetorical structure of the text; content schemata related to the content of the text; and cultural schemata related to the cultural information needed to understand the text.
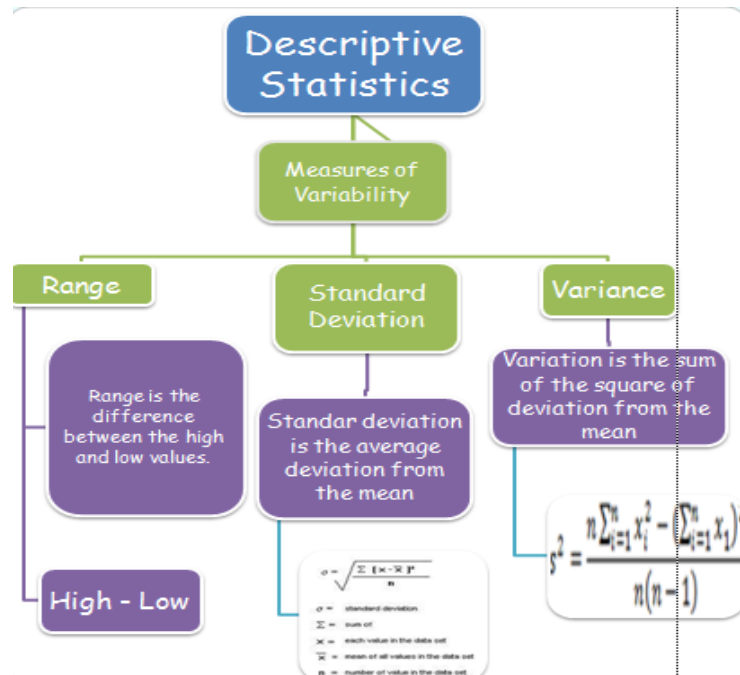

Figure 4. Graphic Organizer of Descriptive Statistics

In this study, Multimodal reading as social networking activities for performing critical thinking and creative academic language pedagogy, vocabulary knowledge, knowledge of grammar, and syntactic knowledge is termed as lexico-grammatical resources. Background knowledge and metacognitive awareness are called as genre knowledge, meta-language ability, and language appraisal ability. Learning strategies are termed as meaning-making practices. To enable students to understand all the terms, students need to engage in activities or tasks addressing how language works in texts. Widodo (2015) argues that "learning to analyze lexicogrammar in a functional framework requires a good understanding of the relationship between function and structure, between choice and meaning, and between function and context."

Drawing on reflective diary and photovoice data, students engaged in meaning-making activities (e.g., personalizing digital dictionaries and corpus, creating graphic organizers and listing key concepts by using learning logs). Students analyzed a variety of statistics texts as a unit of analysis they read and shared the result of the analysis with their classmates. Students shared, negotiated, and discussed ideational, interpersonal and textual meanings of texts. They explored linguistic aspects of the statistics they learned. Thus, comprehending how language works in text both digitally and print provided the students with a critical way to understand content knowledge (e.g., statistics concepts and terms) and statistical practices.

CONCLUSION

The findings of this study described the students' experiences which resulted from multimodal reading activities as inter-semiotic practices. Some conclusions can be elicited from the findings of the study. First, through multimodal reading activities, the students were motivated not only to learn about language but also to learn through language. In learning through language, for instance, learning content knowledge i.e., statistics for second language research, students should be provided with authentic, multimodal, and relevant learning in terms of their needs and choices (Yanto & Reza, 2018). Second, multimodality reading tasks can scaffold comprehension and production of the academic language of the students. Thirdly, students who are engaged in cognitive work in content areas (e.g., statistics for second language research) have the motivation to learn language that supports their learning. Finally, multimodality reading tasks can support students 'communication, increasing students' academic writing and students' academic vocabulary development (Yanto & Reza, 2018).

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