EXPLORING TEACHERS’ ABILITY IN DEVELOPING PISA-LIKE READING TASKS

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Abstract: This study is a part of a joint study, aiming to develop a teacher professional development program on training teachers to teach PISA-like reading. The bigger program focuses on a pedagogical intervention that incorporates PISA reading into English and Indonesian subjects based on Systemic Functional Linguistics Genre-Based Approach (SFL GBA) and has been reported in Emilia et al. (2022). Meanwhile, this study centred around the observation of English teachers’ ability to develop PISA-like reading tasks. The intervention is framed within PISA reading (OECD, 2019a,b), and SFL GBA (Halliday & Matthiesen, 2014; Derewianka & Jones, 2016; Emilia, 2011). The study employed a case study design. The findings show that teachers were able to develop PISA-like reading tasks, evidenced from the collected reading items that follow PISA 2018 cognitive processes and response format (OECD, 2019 a, b). Moreover, teachers’ responses from interviews were likewise positive, indicating their increased awareness of PISA and their ability to design similar reading tasks. It is recommended that the training be conducted in a variety of settings with a larger number of teachers for them to eventually assist Indonesian students in improving their reading literacy as suggested by PISA.

Keywords: PISA; PISA-like reading materials; reading; SFL-genre-based approach.

INTRODUCTION

PISA (Programme of International Students Assessment) is a triennial survey of 15-year-old students held by the Organisation for Economic Cooperation and Development (OECD) that assesses the extent to which the students have acquired fundamental knowledge and skills essential for full participation in social and economic life (OECD, 2019a). One of the domains assessed in PISA is reading literacy. In Indonesia, Indonesia Ministry of Education and Culture (2019) has given more attention to literacy since Indonesia is reported to be categorised as one of the low-performance quadrant score countries in PISA, especially in reading. OECD (2019a) reports that only 9% of Indonesian students were capable of comprehending lengthy texts, dealing with abstract or counterintuitive concepts, and establishing distinctions between fact and opinion.

Based on several studies, unsatisfactory Indonesian performance in reading literacy was due to the unfamiliarity with various text types and formats (EF EPI, 2015; Zaim et al., 2021), and the inexperience of observing the form of PISA questions (Zaim et al., 2021). It is reported that the students were not familiar with some texts especially mixed texts (Zaim et al., 2021). Meanwhile, regarding the inexperience of observing the form of PISA questions, it is reported that the majority of students were used to multiple choice questions, but not to open-ended questions. Zaim et al. (2021) add that actually reading literacy assessment in Senior High School has acknowledged several forms of questions, excluding complex multiple choice. However, to Zaim et al. (2021) most teachers used multiple-choice questions and close-ended questions in assessment. Therefore, in their study, Zaim et al. (2021) suggest to use more diverse questions form in reading literacy. Furthermore, in a study reported by Putra and Abdullah (2019), it is reported that there is insufficient amount of higher order thinking questions in 2013-2018 English National Examination in Indonesia. It is also supported by a research conducted by Yasinta et
OECD, 2022) which reveals that students need to improve their competence in reading literacy skills especially evaluating and reflecting texts questions type. Similarly, some studies revealed that EFL teachers face challenges in developing higher order thinking questions in reading literacy (Gozali et al., 2021; Singh et al., 2019; Tyas et al., 2019).

Developing students’ reading literacy skills cannot be separated from teachers’ ability to develop reading tasks. Studies show that teachers significantly impact students' achievement (Gess-Newsome et al., 2017; Ma et al., 2022; Myrberg et al., 2018; OECD 2017). Haw et al.’s (2021) study revealed that across a variety of educational and socioeconomic situations, the desire for supportive teachers significantly predicted student reading achievement. Specifically, in developing reading tasks, teachers need a thorough knowledge of texts and reading items to depict reading tasks in ways that might support students' learning and assess student work (Snow et al., 2005). In regard to this phenomenon, the increasing awareness towards the development of reading literacy skills has led more researchers to study reading literacy, especially PISA with taking teachers preparation aspect as the starter point in teacher professional development (TPD) program.

Limited studies are conducted in regard to TPD program which offers PISA-like reading task development (see Selvina et al. 2018; Khamkong, 2018). Whereas, a TPD program which equipped teachers to develop reading tasks is needed to make them eventually be able to assist students improving PISA reading literacy skills. Thus, this study attempts to explore how teachers develop their ability in designing PISA-like reading tasks in a TPD program. This paper focuses on investigating how teachers develop their ability on designing PISA-like reading tasks based on cognitive process.

PISA involves three factors that are considered to contribute to the reading literacy process; reader, text and task (OECD, 2019a). Reader factors include motivation, prior knowledge and other cognitive ability (OECD, 2019a). Nevertheless, this paper focuses on text factors and task factors which are closely related to the development of PISA-like reading tasks.

Text factors are defined as the range of texts available to the reader at a given place and time (OECD, 2019a). These factors include text format and type, the complexity of the language used, and the number of texts a reader encounters (OECD, 2019a). PISA classifies texts from several dimensions: source, organisation and navigation, format and type (OECD, 2019a). In the interest of space, this paper will focus on text format.

Based on the format, texts are classified into three; continuous, non-continuous, and mixed (OECD, 2019a). Continuous texts are texts which are formed by sentences that are organised into paragraphs. Non-continuous texts are composed of a number of lists or elements such as tables, graphs, diagrams, advertisements, schedules, catalogues, indexes, and forms. Mixed texts contain both continuous and non-continuous elements.

Task factors are defined as the goal that should be achieved by the readers (OECD, 2019a). Unlike traditional reading assessment which tend to answer discrete questions, in PISA the task is designed to achieve overarching purposes. Students' involvement with tasks can be increased using a scenario-based assessment technique, allowing for a more accurate assessment of what they can perform (OECD, 2019a). In PISA, students need to achieve the goal of reading based on several cognitive process categorised by OECD (2019a).

The 2018 Reading Literacy Framework categorises several cognitive processes that span a range of difficulties. Those cognitive processes include Locate Information, Understand, and Evaluate and Reflect as can be seen in Figure 1.

Figure 1. The cognitive process in PISA 2018 reading literacy framework adapted from OECD (2019a)

“Locate Information” cognitive processes require readers to perform two skills. First, it is to access and retrieve information within a text—it involves scanning a single text in order to retrieve target information consisting of a few words, phrases or numerical values. Second, it is to
search for and select relevant texts – searching for information among several texts to select the most relevant text given the demands of the item or task.

“Understand” cognitive process requires three skills: (1) Representing literal information. Comprehending the literal meaning of sentences or short passages, typically matching a direct or close paraphrasing of information in the question with information in a passage. (2) Integrating and generating inferences. Going beyond the literal meaning of information in a text by integrating information across sentences or even an entire passage. Tasks that require the student to create a main idea or to produce a summary or a title for a passage are classified as “integrate and generate inference” items. (3) Integrating and generating inferences across multiple sources. Integrating pieces of information that are located within two or more texts.

In “Understand” cognitive process, students are required to read a text and use analytical skills to seek the truth in the text (Facione, 2015; Paul and Elder, 2019). It encourages students’ skills in reflecting upon their thinking process to create clear, well-reasoned ideas for the benefit of themselves and others. It is aimed to focus on individuals’ abilities in thinking, so students will learn how texts impact them (Paul and Elder, 2019). Similar to this, in the international reading literacy assessment, PIRLS, readers must also interpret and integrate the text in order to comprehend it. These abilities are necessary for students who want to combine their personal knowledge and experiences with the text's meaning in order to develop a more in-depth or comprehensive grasp of it (Mullis & Martin, 2019).

“Evaluate and Reflect” cognitive process requires three skills; (1) Assessing quality and credibility. Evaluating whether the information in a text is valid, current, accurate, unbiased, reliable, etc. Readers must identify and consider the source of information and consider the content and form of the text or in other words, how the author is presenting the information. In some cases, a thorough evaluation necessitates the reader identifying and assessing the information’s source: whether the author is competent, well-informed, and benevolent. In accordance with the assertions of a number of experts, filtering for relevance and reliability is a necessary skill while reading digital media (Barzillai, 2018; Britt et al., 2017; Mo, 2019). (2) Reflect on content and form. Evaluating the form of the writing to determine how the author is expressing their purpose and/or point of view. These items often require the student to reflect on their own experience and knowledge to compare, contrast or hypothesise different perspectives or viewpoints (OECD, 2017). This skill is also needed to formulate independent, well-grounded perspective or opinion (Van de Oudeweetering & Voogt, 2017). (3) Detect and handle conflict. Determining whether multiple texts corroborate or contradict each other and when they conflict, deciding how to handle that conflict. For example, items classified as “detect and handle conflict” may ask students to identify whether two authors agree on the stance of an issue or to identify each author’s stance. In other cases, these items may require students to consider the credibility of the sources and demonstrate that they accept the claims from the more reliable source over the claims from the less reliable source. In other cases, these items may require students to consider the credibility of the sources and demonstrate that they accept the claims from the more reliable source over the claims from the less reliable source. Readers must be aware of the conflict and develop strategies to resolve it when confronted with several pieces of text that contradict each other (Stromso, 2017).

Many nations around the world view the development of pupils’ critical thinking abilities as a very essential educational objective (Stupplea et al., 2017, Larsson 2017). Therefore many studies encourage the importance of teaching critical reading and critical thinking skills by providing students with enough background information of reading texts and leading them to have enough literal comprehension texts (Khamkong, 2018). Likewise, in study, teachers are also encouraged to create evaluate and reflect cognitive processes questions which is expected to lead and make students perform those critical thinking skills as they read PISA reading items.

In addition, assessing quality and credibility is the skill that students must possess in order to be able to be critical thinkers. Being a critical thinker means to perform the ability to be reasonable by referring to reliable sources (Facione, 2015; Paul and Elder, 2019). Critical thinking is also depicted as the ability to consult reliable sources and get in the habit of reflecting on what is believed, read, and heard. In reading, accuracy can also be associated with the ability to identify main purposes and concepts in the texts (Paul and Elder, 2019).

In PISA, students are also required to distinguish facts and opinions. Distinguishing
facts and opinions becomes an important component in critical thinking (Paul and Elder, 2019). Critical thinkers construct reasonable arguments systematically that require evidence. It emphasises the reason one has in believing issues and its implications of the belief (Facione, 2015). Thus in this study teachers learn how to create questions that will encourage learners to perform critical thinking skills.

**METHOD**

This study is a part of a larger joint study, involving three universities in Indonesia. The larger study aims to investigate whether the training program can help 14 English and 10 Indonesian teachers enhance their capacity to teach PISA-like reading conducted by Emilia et al. (2022). The focus of this study is to explore teachers’ ability in developing PISA-like reading tasks. This study employed a qualitative method and a case study design. Several scholars explain that a case study encompasses a thorough analysis of a case (Cohen et al., 2018; Hamied, 2017). The design suits the study because it allows me to explore the phenomenon through analysis and in-depth investigation to understand a behavioural condition of how teachers develop PISA-like reading tasks.

The main project involved 24 teachers who voluntarily participated in the training, including 14 English teachers and 10 Indonesian teachers in West Java, Indonesia. Meanwhile, this study focused on 14 English teachers. The teachers are committed to join the training for six meetings, lasting for 8-hour every Saturday. In the interest of space, purposive participant selection was used to focus on the document analysis and interview of 3 teachers to ensure that the chosen participants can give enough data to support the study's objectives. The selected participants for document analysis is presented in Table 1.

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Current Teaching</th>
<th>Commitment</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(Pseudonyms)</td>
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<tr>
<td>1.</td>
<td>Bakri</td>
<td>Junior High School</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Nurma</td>
<td>Senior High School</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Padma</td>
<td>Junior High School</td>
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</table>

There were two data collection techniques employed in this study: analysis of teachers’ work on PISA-like reading tasks and interview.

The samples of teachers’ works on PISA-like reading tasks include texts selected by teachers and reading items or questions developed by teachers. This study focused on analysis of the questions or reading items produced by teachers based on their cognitive process, and response format of PISA 2018 (OECD, 2019b). Teachers submitted their works on Google Classroom for four times.

In the last meeting, an interview was administered to enable participants’ responses in their own terms (Cohen, et.al., 2018). The interview was analysed using several steps proposed by Cohen et al. (2018). First, the data from the interview session were transcribed and coded. Second, the written data were categorised into themes that had become the focus of this study; teachers’ ability to develop PISA-like reading tasks especially producing reading items. Then the data were presented in a condensed body of information.

**RESULTS AND DISCUSSION**

This section attempts to answer the research question “How do teachers develop PISA-like reading tasks?.” This section discusses PISA-like reading tasks developed by teachers including the sample documents made by Bakri, Nurma and Padma. The discussion is supported by teachers’ responses on their experiences in developing PISA-like reading tasks.

Teachers' ability in developing PISA-like reading tasks was observed from the cognitive process and response format of the reading items. In developing reading items, teachers were asked to create questions ranging from simple questions such as locating information and generating inferences to more complex questions such as reflecting and evaluating. Below is the distribution of cognitive process of each task designed by teachers.

Table 1. Selected participants for document analysis on PISA-like reading tasks developed by teachers

<table>
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Table 2. Items distribution of PISA-like reading tasks developed by teachers

<table>
<thead>
<tr>
<th>SET</th>
<th>Cognitive Processes</th>
<th>Response Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locate Information</td>
<td>Understand</td>
<td>Evaluate &amp; Reflect</td>
</tr>
<tr>
<td>Access &amp; Search &amp; Retrieve</td>
<td>Relevant &amp; Lateral</td>
<td>Integrate &amp; Generate &amp; Infer</td>
</tr>
<tr>
<td>Repres &amp; Select</td>
<td>Meaning &amp; Text</td>
<td>Inferences &amp; Form</td>
</tr>
</tbody>
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Table 2 portrays the item's distribution of PISA-like reading tasks designed by teachers which consist of cognitive process and response format. There were 178 questions made by teachers. Generally, teachers were able to develop PISA-like tasks. PISA provides a thorough cognitive process of each task. The cognitive process demonstrates the type of questions that span a range of difficulties. The results show that teachers can create questions in a variety of difficulty levels starting from locating information, understanding, as well as evaluating and reflecting. The following section discusses the sample of teachers’ work on PISA-like reading tasks created by Bakri, Nurma and Padma.

*PISA-like reading tasks developed by Bakri*

The first PISA-like reading tasks made by Bakri can be seen in Figure 2.

![Figure 2](image_url)

**Figure 2.** A sample of non-continuous text used by Bakri

The figure shows non-continuous text selected by Bakri. From the text, Bakri was able to develop PISA-like reading items or questions based on three cognitive processes as seen below.

*Figure 3. Locate information: access and retrieve information within a text designed by Bakri*

Figure 3 shows locate information: access and retrieve information within a text task developed by Bakri. This question is designed in a form of close constructed response. Bakri was also able to create understand cognitive process question as can be seen Figure 4.

*Figure 4. Understand: integrate & generate inferences sample question designed by Bakri*

As shown in Figure 4, the question made by Bakri is categorized as understand: integrate & generate inferences cognitive process. This question is designed in a form of close constructed response.

The result also shows the most complex cognitive processes: reflect and evaluate reading items created by Bakri as seen in Figure 5.

*Figure 5. Reflect and evaluate sample question designed by Bakri*
Figure 5. Evaluate & reflect: reflect on content & form sample question development by Bakri

As depicted in Figure 5, the reading item developed by Bakri is categorised as evaluate & reflect: reflect on content & form.

Moreover, most teachers acknowledged that after the training, they were able to develop reading items based on cognitive processes, as suggested by OECD (2019a). It can be shown from Bakri’s comment on his experiences to develop PISA-like reading tasks.

Yes, that’s the impact for me, I can make questions based on cognitive processes as suggested by PISA. The students are required to be able to show their abilities in various skills and it’s our job to make questions that can assess the abilities of both high reference and low reference, all the cognitive process, locate information, understand and reflect and evaluate. – Bakri, Excerpt 1

Bakri’s comment shows that he was able to make questions based on cognitive processes suggested by OECD (2019a).

PISA like reading tasks developed by Nurma

Nurma also demonstrated her ability in developing PISA-like reading tasks by developing questions based on each cognitive process as can be shown below.

Figure 6. Non-continuous text used by Nurma

A teacher has posted an article related to graffiti on his blog. Here are some comments written by some of the students.

Schema 18 September 2020

I can consider graffiti as a piece of art as long as it has sense and some motivation for other people. But if graffiti is only stupid words or senseless pictures, it is vandalism and it must be banned.

Walter 18 September 2020

In my opinion, graffiti is beautiful to see, but they have to transmit a message. This type of graffiti is art but only if you have the permission to draw on the wall. The other type of graffiti is considered as vandalism because you don’t ask the owner of the wall to let you draw on his property, which can create many problems and conflicts. But after all, I would say that the job of tagger can bring a lot of money for the perfection of drawing.

Raja 18 September 2020

I would say that this type of art is progress and attractive as it can express people’s attitude, opinion and culture. However, I would think that it should be some specific area allowed to do graffiti because otherwise, individuals’ properties can be damaged.

Malinda 18 September 2020

I think graffiti can only be called art when it has the permission of somebody to paint it, because otherwise the mural will be completely covered with graffiti. Personally, I don’t understand why some people take pictures of the taggers. I just simply don’t get it. I think that is vandalism.

Alexandra 18 September 2020

Nearly all walls, abandoned building, even trains are fully covered by graffiti. I don’t think it is art because almost all graffiti is tagger and swear words. That’s absolutely vandalism. It is quite difficult to find graffiti with clear messages or good training nowadays.

Figure 7. Locate information: Search for and select relevant text developed by Nurma

Figure 7 shows that Nurma was able to create locate Information: Search for and select relevant text. This question was made in multiple choice format.

Nurma also created “Understand” cognitive processes question as can be seen in Figure 8.

Figure 8. Understand: integrate and generate inferences developed by Nurma

As seen in Figure 8, Nurma also created simple multiple choice question format. It is categorised as understand: Integrate and generate inferences

Nurma also demonstrated her ability to create Reflect and evaluate question as can be seen in figure 9.

Figure 9. Reflect and evaluate: detect and handle conflict question development by Nurma

Figure 9 shows the question made by Nurma which is categorised as Reflect and evaluate: detect and handle conflict question. The question was made in open constructed format. Another sample of evaluate and reflect cognitive processes question made by Nurma can be seen in Figure 10.
Figure 10. Question developed by Nurma

Figure 10 shows a question developed by Nurma that requires the reader to reflect and evaluate whether the statements belong to the matter of fact or the matter of opinion. Nurma confirms that her ability in developing PISA-like reading tasks was improved as can be seen in excerpt 2.

Yes, (there is an impact of this training) especially for me. For me, what is clear is that I get more reinforcement about making appropriate questions. I learned in terms of PISA reading knowledge, starting from how to do PISA reading test, to how to form the questions. I learned how to make questions that can enhance students' thinking skills. –Nurma, excerpt 2.

Excerpt 2 revealed that the impact of the training seems to be realized by Nurma as she said that she got more reinforcement about making appropriate reading items.

PISA-like reading tasks developed by Padma

Padma also shows her ability in developing PISA-like reading tasks as can be seen in Figure 11.

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### Text 1

**Driverless cars: a great or problematic invention?**

_by:_ Martha Blogger

Have you ever seen a car without a driver? It sounds crazy, but these computer driven driverless cars will soon be filling roads near you. Companies like Google and Tesla have been designing and testing these cars, and the technology is there – they just need to see if they’re value for money, work out insurance issues, and run final tests to check they can run alongside human-driven cars on the road.

So how do they work? The cars have sensors all around which can detect other cars and obstacles in the road. Sensors on the wheels also help when parking, so the car knows how far it is from the kerb or other parked cars. Road signs are read by cameras, and satellite navigation systems are used so the car knows how to get to your destination. All you have to do is type in the address! Finally, a central computer system takes all the information it receives from the sensors and cameras and processes this to work out when to accelerate, brake and steer.

Sound like your idea of heaven? Sitting back, looking out of the windows and even watching a film or reading a book while ‘driving’ would be possible with this new technology. You wouldn’t have to worry about remembering directions to where you’re going. In addition, computers are generally more efficient drivers than humans, reducing emissions would be reduced. They would also drive more safely than people – they don’t get distracted by music or friends, they would obey the speed limit and have quicker reaction times in case of an emergency.

However, there are many drawbacks of driverless cars. Computers making ethical decisions, if a child ran into the road, would the car choose to hit the child or swerve and potentially kill the car’s passengers? I personally find driving fun – I’d miss never being behind the wheel! My worries would also include legal decisions to be made – should children, or drunk people, be allowed in a driverless car by themselves? Or would there need to be a responsible adult with a driving license in the car at all times?

Although being driven around by a machine would perhaps mean that no one needs a driving license, saving money for everyone, many people would be put out of a job by the dawn of driverless cars. Bus, taxi, train and tram drivers as well as driving instructors would be made redundant.

I’m not convinced I’d want a driverless car – but it’s only a matter of time before they’ll become more affordable and commonplace on our roads.

*Source Text 1 and 2: Marthablogger (8 May 2017)*

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### Text 2

**Would you like to own a driverless car?**

*Comments*

- **Ipeasqual**: 12 April, 2020, 02:09
  
  I would like to own a driverless car because I could ride a car all by myself without needing to be 16 or older. I wouldn’t need to know the directions and wouldn’t need my driver’s license. I personally think there would be no risk of any accidents. That’s because the country law could be more *strict* with footpaths and pathways. I wish there would be cars more quickly.

- **Soyro97**: 21 March, 2020, 16:24
  
  I would love a car that drives itself but nevertheless it is very dangerous since if there is a failure in the computer there is a great risk since there can be accidents and with it I follow great tragedies.

- **Fantis**: 9 May, 2018, 07:35
  
  I personally don’t think driverless cars are a good idea. It just seems too risky and dangerous. I also agree with the point about ethics. How would the computer react? How should it react? Again, seems too risky to me.

*Source Text 2: Ipeasqual, Soyro97, Fantis (8 May 2017)*
Levels of autonomy in self-driving cars

The U.S. National Highway Traffic Safety Administration (NHTSA) lays out six levels of automation, beginning with Level 0, where humans do the driving, through driver assistance technologies up to fully autonomous cars. Here are the five levels that follow Level 0 automation:

**Automation levels in driverless cars**

The U.S. National Highway Traffic Safety Administration lays out six levels of automation, beginning with humans doing the driving through driver assistance technologies up to fully autonomous cars.

<table>
<thead>
<tr>
<th>LEVEL 0</th>
<th>LEVEL 1</th>
<th>LEVEL 2</th>
<th>LEVEL 3</th>
<th>LEVEL 4</th>
<th>LEVEL 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The human driver does all the driving.</td>
<td>An advanced driver assistance system (ADAS) on the vehicle assists the human driver.</td>
<td>The vehicle’s ADAS can control both steering and braking/accelerating simultaneously under some circumstances. The human driver must be ready to take full attention and control of all other driving tasks.</td>
<td>An automated driving system (ADS) on the vehicle can perform all driving tasks under some circumstances. In those circumstances, the human driver must be ready to take full attention and control of all other driving tasks.</td>
<td>An ADS on the vehicle can perform all driving tasks and monitor the road in certain circumstances. The human doesn’t have to pay attention in these circumstances.</td>
<td>An ADS on the vehicle does all the driving in all circumstances. The human occupants can be seated and are never involved in driving.</td>
</tr>
</tbody>
</table>

Source: Lutkevich (n.d)

**Figure 11. Texts selected by Padma**

Figure 11 consists of continuous, non-continuous and mixed texts selected by Padma. From the texts, she demonstrated her ability in developing PISA-like reading tasks *Understand: Integrate and generate inferences* cognitive process question as can be shown in Figure 12.

**Figure 12. Understand: integrate and generate inferences developed by Padma**

Figure 12 displays complex multiple choice question format created by Padma. This question categorised as understand: Integrate and generate inferences.

Padma also increased the item difficulty by producing *Reflect and evaluate: Reflect on content and form* cognitive process question as can be shown in Figure 13.
As depicted in Table 5, the reading item developed by Bakri is categorised as evaluate & reflect: reflect on content & form. It requires students to reflect and evaluate the form of text, in this case the use of colour as symbols of lane. It requires students to identify the purpose of a graphical feature in a map. It implied that Bakri could create question that require the students to read “beyond the lines” as suggested by Rose and Martin (2012) and OECD (2009; 2019b). The item was constructed to ensure that use of reflection and evaluation on the form of the text, must be processed in order to complete the task successfully. Bakri’s comment shows that he was able to make questions based on cognitive processes suggested by OECD (2019a). This comment supported the analysis of PISA-like reading items based on all cognitive processes developed by Bakri. Moreover, Bakri appeared to be aware that teachers’ ability to accommodate all questions based on cognitive processes or all reading comprehensions level is important in guiding students to be able to perform their reading skills. This seems to support the notion that teachers has a critical role in asking questions to eventually enhance students’ comprehension of the texts (Rose & Martin, 2012).

PISA-like reading tasks developed by Nurma

Nurma also created PISA-like reading tasks based on cognitive process as suggested by OECD (2019a). From the discussion on a comment section about graffiti, she made some questions. As can be shown in Figure 7, the question is categorised as locate information cognitive process. In this reading item, students are required to search for and select the relevant text (in this case short arguments stated by students in the comment section) to locate a specific piece of information that is a direct match with the question stem or one of the response options as suggested by OECD (2019a,b). In this item, the student must search through the different comments to find the answer. By providing the correct answer, the student demonstrates that he or she has selected the relevant text (“Rajja”). Once the correct text has been located, a simple match is made between the content within the section on the “action of intentionally damaging a public area” and the options. Thus, while this item encourages engagement with the all the comments, it does not require a deep level of engagement with the relevant text. Here, the answer is (C) Vandalism.
Nurma also created “Understand” cognitive processes question as can be seen in Figure 8. Nurma created simple multiple choice question format. In this item, Nurma demonstrated her ability to create a reading item which requires students to generate inferences from the opinion stated by each person. This item is categorised as understand: integrate and generate inferences because the students need to infer the meaning implied in the discussion forum whether people consider graffiti as an art or vandalism. In this case, the students need to differentiate which statement that implied agreement or disagreement. The task developed by Nurma demonstrated that she applied the principle as noted by Britt et al. (2017) that the students are encouraged to interpret text within a given task situation. This question represents typical active reading.

As shown in Figure 9, the reading item developed by Nurma requires students to draw on their own knowledge and beliefs to evaluate the arguments put forward by the writers, comparing the substance rather than the form of the texts. In the three-aspect categorisation, this task is therefore classified as evaluate and reflect: detect and handle conflict. This item focuses mainly on the element of handling the conflict rather than detecting it. By asking the student to come to a conclusion and use the multiple texts, the student demonstrates how he or she handles the conflict between the information presented in the comment section of a webpage.

The question simulates the processes that readers might engage in as they compare and contrast the opinions of different authors on a topic. One of the typical of active reading approach in encountering one or more written arguments is to compare one’s own position with those of the writers. Nurma created a question which requires the student to read two stances provided in the item stem: ones that consider graffiti as an art, ones that say graffiti as vandalism. In order to gain credit for this item, students needed to demonstrate implicitly or explicitly that they understood the main thrust of the argument advanced by their chosen writer, as well as justify their position, either by introducing their own supporting argument or by summarising or interpreting the argument given by the writer. The student can select any of the five people in the scenario associated with these stances, but the student must provide a reason from at least one of the texts to support his or her selection.

Another example of evaluate and reflect cognitive processes question made by Nurma can be seen in Figure 10. Figure 10 shows a question developed by Nurma that requires the reader to reflect and evaluate whether the statements belong to the matter of fact or the matter of opinion. By addressing the “evaluate and reflect” question, she aimed to promote readers' critical thinking skills to distinguish facts from opinion. In the pre-test result which was reported in the bigger study of this project (see Emilia et al., 2022), the most missing question was evaluating and reflecting cognitive processes. However, during the training, there are positive changes indicated by teachers' ability to design the item classified as evaluating and reflecting cognitive processes.

PISA-like reading tasks developed by Padma

Figure 12 displays complex multiple choice question format created by Padma. In this item, Padma demonstrated her ability to create a reading item which requires students to complete a table by selecting the suitable automation level in driverless car for each person. Students must first understand the opinion stated by each person in Text 2 (Figure 11) – online discussion forum, and then integrate it to Text 3 (Figure 11) – automation level in driverless car. This item is categorised as understand: integrate and generate inferences because the students need to infer the meaning implied in Text 2 whether people should start using driverless cars. The task developed by Padma demonstrated that she applied the principle as noted by Britt et al. (2017) that the students are encouraged to interpret text within a given task situation.

Padma also increased the item difficulty by producing Reflect and evaluate: Reflect on content and form cognitive process question as can be shown in 14. It shows that Padma was able to ask question which requires the student to identify the main purpose of the text written by the author of the blog, Martha. It should be noted that the student is not asked to identify the main idea. Instead, the student must understand the overall meaning of the blog and then consider why it is being presented and how it has been written by the author. The student must reflect on the content and form of the text. Here, the correct answer is “to discuss driverless cars”. It shows that Padma was able to identify the purpose of the discussion text. The ability to identify the purpose of the text indicate teachers’ (especially Padma) understanding of one of the elements of given task in comprehending text discussed in the training, from both PISA reading and SFL GBA (OECD 2019 a, b; Emilia, 2011; Derewianka and Jones
2016). This type of question is also still being asked in PISA 2009 (OECD, 2009) and PISA 2018 (2019b). The finding suggests that question development by Padma as can be seen in Figure 14 is relevant to PISA.

Generally, teachers’ responses indicate that the training contributed to the enhancement of their ability in developing PISA-like reading tasks. The teachers appeared to be cognizant of the training program’s role in promoting their learning and giving them with the experiences necessary to maximise their capacity for developing PISA-like reading tasks. This supports the findings discussed in on document analysis of teachers’ ability in developing PISA-like reading tasks, as shown in the texts they selected and reading items they developed.

CONCLUSION
This study is a partial result of a training program to teach PISA-like reading reported in Emilia et al. (2022). This paper focuses on teachers’ ability in designing PISA-like reading tasks. The intervention is framed within PISA reading and SFL genre-based approach. Teachers’ ability to design PISA-like reading tasks was observed through the reading items based on cognitive processes as suggested by OECD (2019a,b). Samples of PISA-like reading tasks created by the teachers over the training are presented. The paper has shown that the training program enabled teachers to develop PISA-like reading, proven by the collected reading items, which follow PISA 2018 frameworks (OECD, 2019,a,b). Teachers show their ability to develop reading materials by varying text according to text format, such as continuous, non-continuous and mixed text. In addition, teachers are also able to design tasks following cognitive processes and response format based on the PISA 2018 framework. Moreover, teachers’ responses from interview were likewise positive, indicating their increased awareness of PISA and their ability to design similar reading items.

For future direction, it is recommended that the training be conducted in a variety of settings with a larger number of teachers for them to eventually assist Indonesian students in improving their reading literacy as suggested by PISA. For those who are interested in developing PISA-like reading tasks from the lens of text-based instruction, this study may be expanded to the pedagogical practices in the classroom settings to explore the applicability and its influences on the students.

ACKNOWLEDGMENTS
The research reported in this manuscript is a partial result of a study funded by a grant from Universitas Pendidikan Indonesia under Indonesia Research Collaboration Program to establish a training program aimed at improving teachers’ capacity to teach PISA-like reading. The result of the study was also reported by Emilia et al. (2022) on training teachers to teach PISA-like reading and Rahmadina & Emilia (2022) on teachers’ initial practice in teaching PISA-like reading. We also want to express our gratitude to the teachers who took part in the study; the study would not have been feasible without their participation.

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