Article

Impact of "Socratic Cues" on Young Learners' Reasoning Abilities of Graphic Novels Through Writing Comprehension

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ABSTRACT

Critical reasoning ability was regarded as an essential skill for the 21st century, and it was crucial for pupils to develop this skill beginning from a young age. This research was based on the problem where pupils could not provide critical ideas in writing and could not generate various ideas during their pre-writing stage. This study proposed to improve young learners' reasoning ability using the Socratic questioning strategy when reading graphic novels in the English Literature classroom. Throughout this research, "Socratic cues" was introduced as a means of assisting pupils in doing their writing tasks and trigger pupils' reasoning ability regarding a certain topic. This case study adopted a mixed-methods approach in which three instruments were used to obtain triangulated data that included a pre- and post-test, a semi-structured interview, and an observation checklist. The research participants were selected through nonprobability convenience sampling consisting of fifteen pupils from a rural primary school in Negeri Sembilan. The results indicated that using "Socratic cues" had a positive impact on improving all fifteen participants' reasoning ability through graphic novels. Through the use of Socratic cues, it was evident that pupils felt empowered and engaged in the classroom.

KEYWORDS: Socratic questioning technique, reasoning ability, critical writing skills

Introduction

One of the constituents of Higher Order Thinking Skills (HOTS), as highlighted by the Curriculum Development Division of the Ministry of Education (2013) and Ghanizadeh et al. (2020), was reasoning abilities, which have become a primary goal in the educational field. This was due to the current demand of producing pupils equipped with active and critical thinking skills for future needs. Reasoning could be defined as a process of reaching a logical conclusion based on relevant sources or processed information (Aminah et al., 2018). This ability was necessary to be taught to the pupils, as it was the focus of the Ministry of Education

in order to promote HOTS. Therefore, to address the necessity of producing excellent pupils in 21st century education, Socratic cues were supplemented with graphic novels as visual aid in the intervention to develop pupils' reasoning abilities.

"Socratic cues" or commonly known as the Socratic questioning technique, comprised of an organised and structured series of questions that was designed to promote the development of critical thinking skills through "the enquiry of complex concepts, comprehension of the facts, identification of issues, examination of assumptions, and more." (O'Reilly et al., 2022). "Socratic cues" was one of the most effective strategies for fostering critical discussion between pupils and teachers through questioning (Yang, 2005; Paul & Elder, 2007; Tofade, et al., 2013). This questioning technique catered two primary purposes: to deeply probe pupils' thinking and reasoning abilities. It allowed pupils to dig beneath the surfaces of the ideas and value the cultivation of deep learning by posing effective questions based on the types of questions posed.

Meanwhile, graphic novels broadly referred to as fictional works (or a novel) with a series of simple sequential drawings that visually outline a plotline between the characters involved, much akin to the comic-strip format. These drawings helped illustrate the conversation between the characters and provided additional support to the reader struggling to grasp the information in a typical setting or text. Graphic novels were commonly used by upper primary level pupils in the Malaysian classroom as part of the literature syllabus. The teachers are also given freedom to hand-pick graphic novels that were culturally appropriate and suitable to the chosen topic to gain maximum benefits (Bolcková, 2014) from using them to aid the pupils' teaching.

This research was conducted mainly due to the concern regarding pupils' low level of critical reasoning, especially in writing skills (Melor et al., 2012). Most pupils could write fairly well in this case study, but the ideas and points were not explicitly elaborated and were simply stated. Most pupils were reluctant to write, especially when it involved a topic that required them to think deeper. From the researcher's analysis, it could be observed that the pupils have difficulty expressing their ideas or thoughts critically in writing. Thus, this research was done to help maximise pupils' reasoning abilities and develop their ideas in writing through the use of graphic novels.

This research was conducted to answer the following question:

How does the use of "Socratic cues" in English Literature classroom help to develop reasoning abilities when reading graphic novels among young learners?

Literature Review

Numerous articles emphasised writing techniques such as sentence construction and grammar components but not so much on developing critical ideas in writing (Hinkel, 2003; Sighal, 2004; Muhammad Fareed, 2016). However, Bean and Melzer (2021) argued that it was a big concern to start focusing on the group of pupils who encountered problems with generating ideas and writing critically. It was undeniable that justifying ideas and thoughts through speech was much easier compared to writing. In speech, pupils could simply use body language or any other form of verbal cues to convey meaning to the listener (Hyland, 2019). However, in

writing, Bleicher (2017) claimed that it was considered a higher form of skill as it required specific techniques and detailed explanations to ensure the content and meaning were parallel.

Meanwhile, reasoning could be defined as using given information, comparing it to what we know, and drawing conclusions. While our thinking ability is innate, reasoning could be taught and improved with effort. Kanimozhi & Ganesan (2017) believed that proper guidance and education could improve children's reasoning. Reasoning ability could help distinguish between positive and negative situations, make choices, and solve problems. Hence, this ability was very meaningful to be taught among pupils in school to prepare them for the upcoming challenges in life. The teacher needs to aid the pupils in making logical connections to the graphic novels by posing a few questions to trigger pupils to think in-depth about specific issues. Peterson & Taylor (2012) and Nappi (2017) agreed that the purposefully designed questions would benefit both teachers and pupils to make connections to prior knowledge and make meaning of the stimulus around them.

Socratic questioning could be described as a disciplined and structured questioning technique that could be used to develop and pursue thoughts for many purposes and directions (Paul & Elder, 2007). Yang (2017) mentioned the importance of effective questioning strategies in class. In his research, he stated that the questioning technique helped stimulate the pupils' thoughts. Besides that, it could also be a crucial medium to inspire pupils' thinking and enhance pupils' comprehension during teaching and learning in class. Moreover, it could also help to trigger pupils to visualise the situation better, as the technique involves pupils not only as readers but also as a 'real-life simulator' as they need to relate their life experiences to the issues portrayed in the graphic novels. Hence, this was parallel to the aspirations set by our education system to ensure that the pupils could be independent and critical learners.

Under the KSSR syllabus, the English literature component targeted upper primary level from Year Four to Six. Contemporary children's literature was introduced in 2014 and separated into three categories: poetry, short stories and graphic novel. Using graphic novels could help the pupils make meaning from the dialogues and pictures represented in the graphic novels and understand the logical connections between the ideas illustrated. The graphic text approach could provide visual support that helped maximise the readers' logical interpretations or judgments, which helps to ease prediction and produce their own evaluations through the content process (Short, Randolph-Seng & McKenny, 2013; Krusemark, 2015). Graphic novels allowed pupils to improve their reasoning skills through a different approach, as it encouraged them to make logical connections between the dialogue and illustrations.

Theoretical framework

For the success of this research, the theoretical framework was built based on two theories. The first was the Instructional theory of Gagne (1984) which would be used as a guide by the researcher to focus on how to structure lessons to teach the Socratic technique. To further strengthen this study, the researcher would use Krashen's Input Hypothesis (1985), which would be used as a guide by the researcher to see the role that needs to be taken by a teacher to teach the Socratic Questioning Technique methodically. The researcher would devise Instructional theory and Second Language Acquisition theory as the basis of the study. Briefly, the theoretical foundation of this research was outlined, in Figure 1 below:
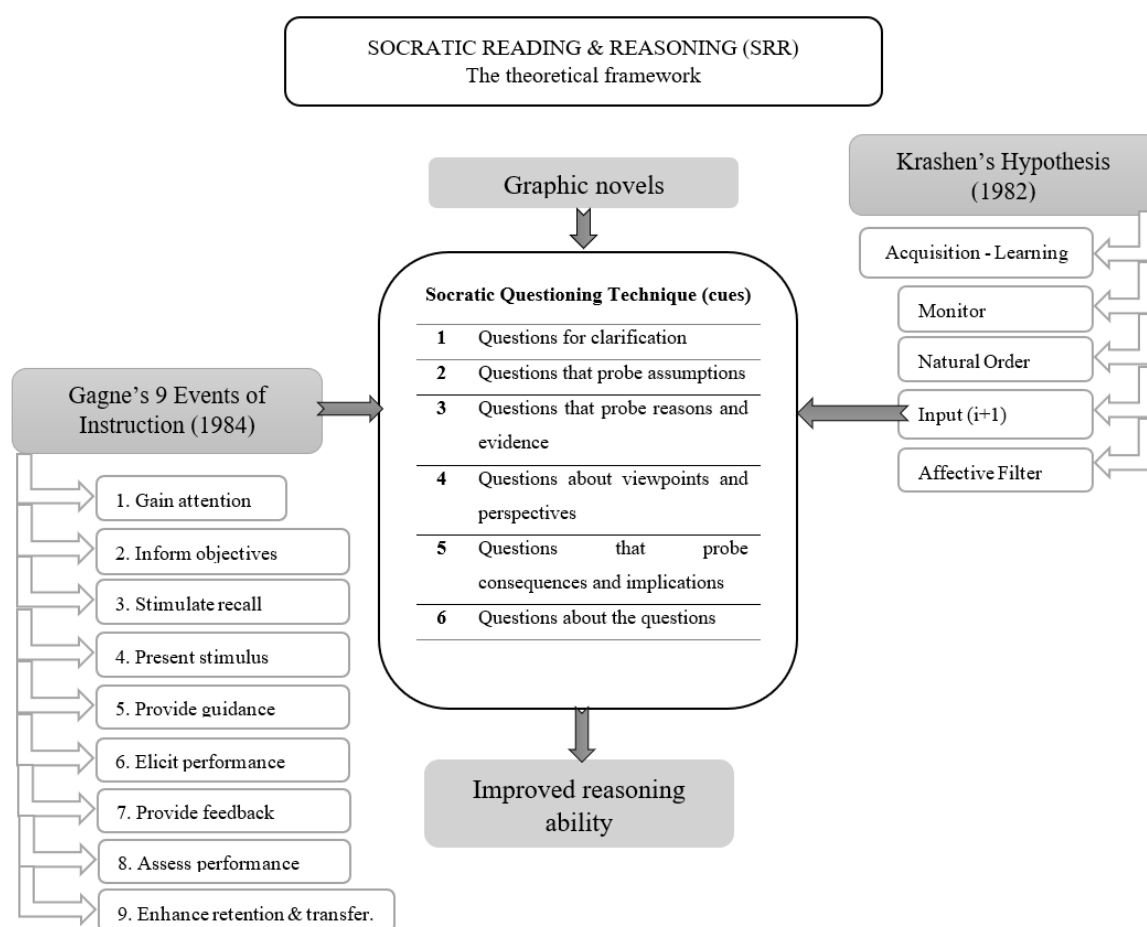
Figure 1: Theoretical Framework of the study

Gagne's Theory of Instruction (1984) introduced nine phases in the teaching and learning process that each individual would pass; the first phase of motivation aims to attract children to the learning that would be delivered (Sternberg, 2001). Motivation was essential in teaching and learning because it drives the pupils' will and desire to achieve a goal (Hariyanto, Arafat & Wardiah, 2021). An important aspect of motivation was that pupils could do things voluntarily and according to their wishes to achieve certain goals (Tar & Mahmud, 2021). Motivated pupils would be eager to follow the teacher's lesson and pay full attention to the teaching process. This situation would increase the pupils' understanding of issues or topics highlighted by the teacher.

In the research, Krashen's Input Hypothesis was propounded which stated that language acquisition occurred as a result of learners' interpreting input directed at them according to the "i+1" principle. To relate to the focus of this research, using the effective questioning technique was a form of guidance that should be given to the pupils to help them analyse the graphic novels better and, therefore, be able to write with good ideas. The questions provided must neither be too far above nor too close to the pupils' current level that they were not challenged (Krashen, 1985; 1998). Through the selection of questions posed by the teacher, pupils would be able to provide reasons and think deeper to make meaning of the input decoded from the graphic novels presented. Therefore, English teachers could implement Socratic cues in their

lesson plans more effectively using suitable language learning theories as per this theoretical framework.

Methodology

A descriptive case study was used in the mixed-method design of this study. The case study method enabled the researcher to analyse the data within a particular context in depth. According to Ebneyamini and Sadeghi Moghadam (2018), a case study technique often selects a small geographical area or a modest number of participants as the study subjects. This study involved a scenario in an authentic context or setting; hence, the case-study methodology was judged as appropriate (Yin, 2012). An explanatory sequential design (Creswell & Clark, 2011, 2017) (QUAN → qual → QUAL) was used to assess pupils' engagement and response regarding the use of Socratic cues to improve reasoning abilities when reading graphic novels.

Among the methods that were used for the triangulation of data collection included document analysis, observation, and semi-structured interviews. Meanwhile, rubrics and checklists, interview questions and pupils' worksheets were used as instruments to collect the data needed for this research. The pre and post-test data were analysed quantitatively using SPSS, while the qualitative data were analysed using content and thematic analysis with the aid of Computer-Aided Qualitative Data Analysis (CAQDAS). The items used in this study were identified through previous studies and simultaneously meet the validity of the content (Brod, Tesler & Christensen, 2009). To ensure the validity of the content, the researcher would make careful evaluation and structuring decisions in the process of forming the instrument. Beck (2020) stated that at least three experts in a particular field were required for content validity. Therefore, for the Socratic technique, the researcher sought the services of three experts to confirm the items used by the researcher.

Research Participants

This research was conducted in a primary school located in a rural area in Port Dickson, Negeri Sembilan. The participants of this research were Year 4X pupils, consisting of fifteen intermediate and lower proficiency pupils. The research participant selection was made using nonprobability convenience sampling. Convenience sampling was the most typical form of nonprobability sampling (Edgar & Rice, 2017), a method of collecting data by taking samples from the research site. It was the most commonly used sampling technique as it was efficient and uncomplicated. Convenience sampling was seen as a suitable choice due to the small size of the sample and the limited availability of time and resources.

The researcher informed the respondents about their participation and role as participants in this study. The participants' guardians were also notified and given written consent to allow the pupils' involvement as respondents. With the consent of their guardians, pseudonyms were used to make it confidential so as to protect the pupils' personal details for the purpose of this research. There was no bias while considering participants' bias as all the pupils enrolled in Year 4X were included with no favouritism taken into account.

Research Instruments

Quantitative data were gathered to assess the pupils' engagement and responses through a pre-test that was derived from the Socratic questioning technique. Then, qualitative data were obtained using an observational checklist during the intervention phase of this research. The intervention phase consisted of implementing the Socratic questioning technique for approximately a one-month period. At the completion of the intervention phase, the Socratic assessment was administered again as a post-test. Afterwards, the case study follow-up interviews were conducted with all fifteen pupils.

The implementation of this intervention would be based on the nine phases in Gagne's teaching and learning process model. The researcher took viewpoints from Gagne's nine instructional events to ensure that this chosen approach could help improve the quality of pupils' critical thinking in learning and at the same time, help them absorb knowledge more effectively. Throughout this research, "Socratic cues" was introduced as tips to help trigger pupils' reasoning abilities regarding a given topic or task. However, to maximise the pupils' capacity to think critically, a teacher must first comprehend the approach and strategy employed to encourage pupils' reason and thought. This was where the Socratic questioning technique should come into play when reading graphic novels. The Socratic technique was crucial as a means to help pupils think critically and generate ideas better during the pre-writing stage.

Pre-test and post-test designs were used to measure changes before and after the Socratic questioning technique was implemented towards the participants. The pupils' worksheet was essential to explore improvements in the pupils' ability to write a critical essay. The pre and post-Socratic techniques were carried out to analyse the difference and improvements between the pupils' ability to write an essay based on their reasoning ability before and after the approach. The data collected from the pre-test and post-test document analysis provides a reliable source of data as it was free from personal perceptions and judgement. The pupils' answers were the most accurate data in this research as they reflect their reasoning abilities and critical thinking in their writing.

For this research instrument, the researcher conducted an analysis to see the significant changes and improvements in the pupils' reasoning ability from before the graphic novel was introduced (the pre-test) and after it was introduced (the post-test). The test consists of five questions based on the graphic novels on a particular topic. All items were based on the Year 4 topics in the CEFR Get Smart textbook. During the pre-test session, the researcher used the text dialogues based on Unit 3 (In the Past) in the textbook. The results collected were tabulated to show the level of ability of the participants in providing reasons and justifications based on the items used in the test.

For the post-test session, a visual representation of the dialogue was given in the form of graphic novels, and the pupils needed to answer the same number of questions. The allotted time for each test was 30 minutes. The items covered the same topic as the pre-test on Unit 3 (In the Past). It was carried out after all three cycles of the Socratic approach were completed. The post-test functions as evidence to measure research participants' improvements in their reasoning ability and generating ideas critically through using Socratic questioning techniques and reading graphic novels. The result of the post-test was compared with the result of the pre-test to see whether there were any significant improvements after implementing three cycles of the Socratic questioning technique. The researcher prepared pupils for Socratic questioning at

least three times a week in daily instruction and tested them using Facione's Holistic Rubric (1994).

Three subject matter experts' opinions were taken into account in developing the semi-structured interview questions, as it required a strong understanding of the topic at hand to provide respondents with relevant, meaningful, and appropriate responses. For the interview session, the researcher conducted an interview on the participants' problems with writing and their perceptions of using effective questioning techniques and graphic novels to improve their reasoning ability before and after the Socratic technique was implemented.

In conducting the interview, interview questions that suit the type of interview being conducted were prepared. The interview questions act as a guide during the session on what to ask, especially to discuss the elements of the Socratic technique that enhanced descriptive writing. Besides, a tape recorder was used to record all the interview sessions to ensure that all the data was kept securely. This would ensure that the data could be viewed and referenced during data analysis to get deeper feedback about the interventions as well as to answer the research questions. The sample of interview questions were as follows in Table 1:

Table 1: Sample of interview questions

No.	Questions
1	You have just finished discussing a graphic novel in your language arts class. What did you think about it? Do you love reading graphic novels? Was it interesting or difficult?
2	Do you enjoy using Socratic questioning in your group discussion? Why?
3	Have you experienced any difficulties in using Socratic questioning technique?
4	Does the Socratic questioning techniques and graphic novels help you get ideas and provide reasons in writing?
5	Can you understand the graphic novels better after trying the Socratic questioning technique?

Besides document analysis and interviews, the next method employed for data collection was observation. Video recording and a checklist were the instruments used to gather observational data. Observation was used for this research as it was a method of systematic data collection, in which the researcher "utilised all possible senses" to observe participants in real life whenever a situation occurred or in naturally occurring settings (Kawulich, 2005). As the observation was conducted in a natural setting, i.e., the classroom when lessons were conducted, the pupils would be at ease and showcase their natural reactions with accurate results. Through this method, the researcher would be able to record the whole session during the execution of the intervention. The researcher would then watch the recording and use the checklist to collect reliable data on the pupils' progress and orientation.

This observation checklist was used to record the behaviour of the participants. The observation was analysed based on the rating scales and the coding system designed for the checklist. This checklist was vital to identify pupils' responses and behaviour before and after the Socratic technique was executed. It allows the researcher to observe the pupils' acceptance of the technique and whether it helps motivate them in learning English as well as improving their writing skills in generating critical ideas. Consequently, data collected from these three

instruments was analysed and coded to see if there were any significant improvements before and after implementing the technique. The data was represented in the following section in the form of tables and charts.

Validity and Reliability

Data triangulation validated the study's data by cross-checking the same information and provided validation and verification while reinforcing similar findings. The triangulation of document analysis, interview and observation employed in this research ensured the consistency, validity, and reliability of the findings obtained, thus, strengthening the research and making it easier to draw conclusions based on the outcomes. A specifically designed rubric was used to analyse pupils' writing during the pre and post-test questions to determine the level of pupils' reasoning ability and to see the improvements achieved by the participants before and after the interventions were executed.

The determination of content validity refers to the ability of a research instrument to contain valid information that covers the components of the field under study (Creswell, 2014). The items used in this study were identified through previous studies and simultaneously meet the validity of the content (Brod, Tesler & Christensen, 2009). To ensure the validity of the content, the researcher would make careful evaluation and structuring decisions in the process of forming the instrument. Creswell (2014) suggested that researchers should consult experts in a particular field to validate the items contained in the research instrument. Beck (2020) stated that at least three experts in a particular field were required for content validity. Therefore, for the Socratic technique, the researcher sought the services of three experts to confirm the items used by the researcher.

While executing this research, the pupils were equipped with a topic in the form of visual representation of graphic novels to help them get the ideas that were later scaffolded through Socratic questioning techniques in developing their writing composition. Therefore, graphic novels were considered an effective technique to assist pupils in generating ideas for writing. However, by solely using graphic novels to enhance pupils' reasoning ability, it would not be able to achieve superior benefits without the implementation of Socratic questioning techniques by the teacher.

Data Collection Procedures

The research participants were given some time to read through and digest the brief ideas of the graphic novel by making meaningful connections between the illustrations and words portrayed in the graphic novel. The teacher would prompt the participants with a few questions aligned with the Socratic questioning technique to widen the broadness of the participants' thinking as well as to develop their critical ideas through the connection made between their own experience and the graphic novel.

Then, based on the answers produced from the questions posed by the teacher, the participants needed to provide justifications and reasons for the character of the thief in the graphic novel. This was where the participants needed to compose their ideas about the graphic by critically evaluating and analysing all the elements represented in the graphic to make logical connections and discern its meaning. The participants also needed to think beyond the box in relation to their own schemata to provide solid justifications and logical reasons. This could

help the participants improve their reasoning abilities by providing suitable justifications through non-verbal responses and developing their main ideas. In this research, the Socratic questioning technique was used to aid the pupils in analysing the graphic novel to help them write their essays based on their constructed answers.

Next, the pre-test was carried out to identify the level of language development of the participants in writing. The pre-test comprises a narrative text based on the topic chosen, which was Unit 3 (In the Past), where the pupils needed to answer the question on the text titled as "Ancient Egypt." The participants were given 30 minutes to answer the questions provided. The questions comprised five subjective questions. In the following week, the researcher implemented the Socratic technique during the teaching and learning sessions. The chosen graphic novels that cover a topic in the textbook were introduced and pupils were prompted with a few questions to stimulate their critical thinking by providing reasons and justifications. Table 2 showed the steps and actions being carried out to fulfil the objectives of this research:

Table 2: Planning of actions

Week	Implementation Plan	Instruments Used
Week 1: Pre-test	Participants answered the questions for pre-test.	Pre-test
Week 2: Intervention (1st phase)	Teacher executes the approach.	Socratic questioning techniques & graphic novels + observation checklist
Week 3: Intervention (2nd phase)	Teacher executes the approach.	Socratic questioning techniques & graphic novels
Week 4: Intervention (3rd phase)	Teacher executes the approach.	Socratic questioning techniques & graphic novels + observation checklist
Week 5: Post-test	Participants answered the questions for post-test.	Post-test + document analysis
Week 6: Interview Sessions	Participants were interviewed.	Interview questions

During the implementation of the technique, an observation checklist was used to see the changes in the participants' behaviour and perception before and after the technique was implemented. Throughout the three weeks of the Socratic technique's execution, the participants' worksheets were analysed to observe any significant improvements or positive changes. During the sixth week, the researcher did not implement the intervention to test the respondents' memories and whether they could still remember the technique introduced. The post-test session would be implemented and the participants should be able to write compound and complex sentences as well as able to provide critical reasons and judgements about a certain topic.

The answers given by the participants were all evaluated and coded to see the significance of improvements on pupils' reasoning ability in writing. For this research, the participants have also undergone the interview session to gain feedback on the interventions implemented. After evaluating the participants' transcribed and coded answers, the researcher could conclude

whether the intervention had been successful in increasing the pupils' reasoning abilities through the writing task given.

Findings

The quantitative data were obtained by the researcher through the distribution of pre and post-tests to obtain information on the effectiveness of the "Socratic cues" in improving pupils' reasoning abilities. Whereas the qualitative data aims to measure the engagement, motivation and participation of pupils based on an observation checklist that was carried out during the English Literature classroom. Meanwhile, the semi-structured interview was conducted to identify pupils' readiness, attitude and perception towards the implementation of the Socratic technique in their lessons.

Analysis of pre and post tests

The pre-test and post-test questions included five "Socratic cues" that were provided to provoke pupils' reasoning abilities and reflect on their reading from the graphic novel. The descriptive analysis showed pupils' overall level of competency increased in the post-test, which was at a high level (M = 22.93, SD = 1.668) compared to the overall pre-test score (M = 12.47, SD = 1.642). Meanwhile, the interpretation of the mean score for each item was based on Pallant's statement (as cited in Gerald 2018) that the mean score value between the value of 3.67 to 5.00 was high. This indicated that Socratic cues was beneficial and effective in improving pupils' competency in utilising their reasoning abilities in writing tasks. The results were detailed in Table 3.

There were five items in this section, and all five items recorded high mean interpretations for the post-test results, which indicated that pupils tend to answer well for the questions that probe clarification, with the highest recorded mean score of 5.00 and a difference in mean of 1.07 compared to the pre-test (M = 3.93). However, the highest improvement was seen for Question 5 of probing implications, that demonstrated the greatest increase from the mean score of 1.07 and SD = 0.704 to the mean score of 4.07 (SD = 0.884). Consequently, the low scorer in the pre-test showed considerable improvement between the pre-test and post-test. By analysing the answers for the post-test, the participants showed promising improvements in reasoning ability, as the participants could not really provide reasons and justifications during the pre-test session.

The findings of the post-test and the pre-test were compared to determine the effectiveness of the specified "Socratic cues" training session in developing the critical thinking abilities of the participants. The outcome of the paired sample t-test indicated that there was a considerable difference compared to pre-test (t = − 29.90, p = 0.001**). The findings of the paired sample t-test presented in Table 3 demonstrated that the participants' post-test results differed substantially from their pre-test results. Consequently, this indicated that the pupils' critical thinking ability had greatly increased, indicating that the planned intervention was successful at improving pupils' critical thinking ability.

Table 3: Results of the Paired sample T-Test for Pre-tests and Post-tests

Variables	N	Mean	Std. Deviation	*Paired t value*
Pre- test	15	12.47	1.642	-29.900***
Post-test	15	22.93	1.668	

*** $p < 0.001$

Thus, by analysing the findings for the post-test, the participants showed good improvements in reasoning ability, which the participants did not really provide reasons and justifications during the pre-test session. These positive outcomes after the intervention was implemented show that using both Socratic cues and graphic novels help to improve participants' reasoning abilities in writing. Based on the interventions carried out, the results represented clearly shows the progress and improvement among all research participants in their ability to provide reasons and justifications in writing sentences based on the graphic novels given and aided using Socratic cues.

Analysis from semi-structured interviews

For the semi-structured interview, most participants mentioned that they were facing difficulties in providing reasons and justifications in writing, which caused them to write simple texts with minimal critical ideas. However, after the interventions were executed, the participants could see significant improvements as they were able to generate ideas better. Moreover, all participants also showed great interest and perception about using graphic novels in class. This was because the participants were already familiar with the graphic novels and spent most of their time at home reading comics. Most of the participants also agreed that the graphic novels were interesting and helped them to visualise the situation better. Besides that, the participants also mentioned that the Socratic cues were helpful in stimulating their thinking to generate critical ideas in writing and helped them understand the graphic novels better.

Ten participants agreed for the following question that they like using graphic novels and Socratic cues as it really helps them generate ideas. For instance, RP 4 mentioned that it was a bit difficult for her to understand the graphic novel independently, but the effective questioning techniques helped her understand it better by saying:

> …sometimes it's difficult for me to understand. After the "Soc-cues" I can relate to it better and get ideas, but I need to think more…

Likewise, RP1 stated:
> ...after you use graphic novels, I get ideas to write because I can imagine...

While RP3 quipped:
> ...it's helpful because I can imagine the situation. I can read the words and they are clear for me compared to long sentences.
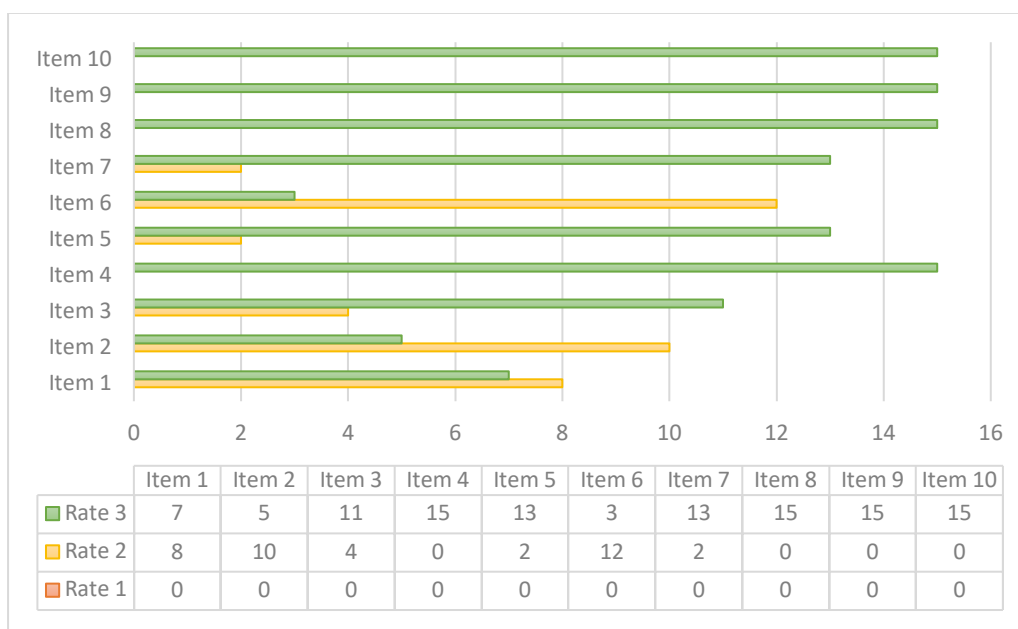
As agreed by RP9, it helps to
> …recall the story and characters….

Besides, the participants also agreed in their interview sessions that the intervention helped them to improve their reasoning abilities and that they could think of more creative ideas with greater ease. Their positive feedback on the questions asked was aligned with the result of the post-test, which indicates that the intervention helped them enhance their reasoning and writing abilities.

Analysis from observational checklist

The participants' behaviour in class was also observed to see their perceptions towards the interventions planned. Previously, some of the participants showed a lack of interest in participating actively in the writing activities. However, after the interventions were executed, most participants showed readiness and motivation to learn and complete the writing tasks given. The participants also exhibited active and independent learning behaviour in class since the intervention implemented focuses on using a pupil-centred approach. By having the pupils respond to the teacher's Socratic questions, this could help narrow their thinking to be more critical, as well as give them chances to actively engage in the lesson, as shown in Figure 2.

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Rate 3	7	5	11	15	13	3	13	15	15	15
Rate 2	8	10	4	0	2	12	2	0	0	0
Rate 1	0	0	0	0	0	0	0	0	0	0

Figure 2: Final cycle of Intervention

All fifteen participants' level of engagement based on the checklist had increased tremendously. They responded actively to the questions asked and they tried to give their best cooperation during the implementation of the intervention. They also managed to maintain their concentration on the lesson better. In fact, they also displayed great interest in the lesson, which could be seen through their body language. The participants were interested in the "Socratic cues" and paid better attention during the intervened lesson as compared to a normal lesson. The intervention was able to draw the pupils' attention and engage them in the lesson better. Clearly, that through this intervention, pupils were able to slowly progress from writing incomplete ideas, to building full sentences and finally short paragraphs to answer the Socratic questions.

Discussion

Generally, the findings proved that using the Socratic cues improved pupils' ability in critical writing. Using the Socratic technique was an effective way to ingrain reasoning and critical writing in an English language classroom. All fifteen research participants showed significant improvement in using their reasoning abilities to generate ideas in their critical writing compared to their previous performances. Besides, after implementing the Socratic approach, the participants were highly motivated and participated more actively during literature lessons. This was supported by Hariyanto, Arafat and Wardiah (2021) with the statement that motivation is essential in teaching and learning because it drives the pupils' will and desire to achieve a goal. The post-test results for each participant clearly showed that the use of Socratic cues and graphic novels helped improve the pupils' reasoning abilities in writing.

Active participation and discussion

Many ESL teachers used the Socratic cues to help pupils develop critical thinking skills while also encouraging active participation in class. Tofade et al. (2013) claimed that the higher order thinking skills (HOTS) questions promote divergent thinking of the learners. As related to the Socratic questioning technique, it comprised of critical questions that promote deep learning and diverse ways of thinking. Hence, this helped to develop pupils' reasoning abilities as well as stimulate their mind to think beyond the box, which later would be useful for them to gain ideas for writing.

The use of Socratic questioning engaged pupils' attention, piqued their interest, and helped them feel more confident in critical writing, especially as they could work together in pairs and discuss their ideas beforehand. As mentioned by Yang (2017), effective questioning techniques could be very helpful to stimulate pupils' thoughts. Other than that, using graphic novels during the input stage helped the pupils understand the meaning of words through the visual clues provided and easily understand the flow of the story. The pupils improved even more with significant progress through the repetition that occurred during the three cycles of the intervention sessions using "Socratic cues" where the pupils practise asking and answering the cues in pairs.

Triggering ideas based on "Socratic cues"

The combination of using "Socratic cues" when reading graphic novels was a part of multiple intelligences that focused on visual-spatial input and verbal-linguistic intelligences. Graphic novels encourage effective learning as it used the visual technique to convey information to the pupils and prompt their reasoning abilities (Azman et al., 2015). This technique provided the pupils with a platform to discover answers on their own and sparked discussions that allowed them to analyse the text in more depth. Due to that reason, Socratic cues aided by the graphic novel could be considered suitable to be used as a teaching tool during critical writing lessons.

The training method for reasoning ability and critical writing tasks in this study provided each pupil with the opportunity to individually respond to the "cues" posed during the activity. The "Socratic cues" could be a replacement or substitute to the HOTS activities carried out in classrooms when just a handful of pupils could answer the question posed by the teacher during the lesson (Nurfalah, 2021). Moreover, this activity opened the opportunity for pupils to dwell

on their ideas and compare them with those of their peers, who might have a different viewpoint on the topic or situation. This allowed pupils to understand other viewpoints and recognise the importance of critical thinking in day-to-day life.

Along with the reasoning ability training tasks, Socratic questioning-based tips or cues were included to aid pupils in the exercise's thinking process. In comparison to the pre-test results, where participants were not provided with "Socratic cues", the performance during the post-test with "Socratic cues" given improved dramatically. The study's findings were comparable to those of previous research conducted with high school and college students (Zin et al., 2014; Yang, 2017; Nurfalah, 2021). This study also demonstrated that Socratic questioning could improve primary school pupils' reasoning abilities and critical writing skills.

Suggestions & Implications

Although the use of graphic novels and Socratic cues in the research produced positive results, yet there were some areas for improvement that could be addressed in the future. Since the intervention of this research was only meant to develop pupils' reasoning ability in writing skill, it could be further improved by widening the usage for spoken language too. This was because the importance of developing pupils' reasoning abilities was not only specific to writing skills but also, in speaking, to develop pupils' communicative skills in order to function well in real-life situations. This technique could also be used by the debate team in school as a form of practise. For instance, the teacher could present the graphic novel and let the debaters make meaning of the characters and dialogues represented in the graphic novels. Following that, the pupils could begin debating the critically presented situation and providing justifications based on their schema of the real-life situation or relating to the resource that they had previously read.

Besides that, the technical elements of the graphic novels could be further improved by adapting them to the cultural context. This was important to ensure that the pupils could grasp the ideas better by relating them to their culture and surroundings. By creating graphic novels that were appropriate for their cultural context, the pupils would be able to relate it to their own personal lives when generating critical ideas to write about. The Socratic questioning technique could be an effective medium for the pupils to gain ideas other than using the normal techniques, which highlight the points in the stimulus and do a mind map. The pupils could use the technique to ask themselves the Socratic questions and do a mind map to arrange the ideas systematically from the stimulus, either from graphic novels or text. Considering the fact that "Socratic cues" could be used easily and more effectively by the pupils, they could be developed and adapted to the pupils' learning styles.

Conclusion

In conclusion, it could be deduced that the use of Socratic cues and graphic novels was really helpful in improving pupils' reasoning abilities as well as helping them generate critical ideas and justifications for their writing. The use of Socratic cues was helpful to stimulate pupils' thinking and make logical connections to the graphic novels provided. Hence, the combination

of these two interventions (Socratic cues and graphic novels) immensely helped to promote pupils' critical reasoning abilities to provide reasons and judgements in writing as well as to improve their pre-writing skill in generating ideas. Conclusively, the use of "Socratic cues" was recommended to be applied in teaching other language skills to young learners.

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