

Enhancing Senior High School Students' Written Idea Articulation in English Using 'THINKS' as a Visible Thinking Routine

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Received: 09.05.2025 • Accepted: 21.06.2025 • Published: 10.07.2025 • Final Version: 28.07.2025

Abstract: This action research assessed the effectiveness of the “THINKS routine” Visible Thinking Routine (VTR) in enhancing the written idea articulation skills of Grade 11 STEM (Science, Technology, Education, and Mathematics) students at a public Senior High School in Cagayan de Oro, Philippines. Using a mixed-methods design, the study combined pre- and post-test assessments with a Focus Group Discussion (FGD). Fourteen students, selected through purposive and convenience sampling, participated in a four-week intervention. Results revealed significant improvement in students' articulation scores, progressing from “Satisfactory” to “Excellent.” The Wilcoxon Signed-Rank Test confirmed a statistically significant difference between pre- and post-test scores ($p < 0.001$). Qualitative findings indicated that THINKS enhanced critical thinking, organized thought processes, note-taking, supported writing tasks, and proved adaptable across subjects. However, challenges emerged, including limited time, lack of timely feedback, and the absence of formal validation for the THINKS routine—though the scoring rubric for idea articulation was validated. Despite this, the routine aligns with the core principles of VTRs particularly its focus on making thinking visible through structured, reflective practices. Future research should validate the routine, refine its components, incorporate teacher feedback, explore its applicability to diverse learners, and integrate it into digital platforms. Overall, THINKS demonstrated strong potential as a flexible and effective strategy for improving students' ability to articulate ideas in writing.

Keywords: THINKS routine, idea articulation, critical thinking, visible thinking routines

1. Introduction

A pressing learning gap that continues to affect Filipino learners is their struggle to articulate thoughts effectively—an issue that has become more evident as schools recover from the impacts of the COVID-19 pandemic. The shift to hybrid and remote learning environments has left a lasting impact on students' cognitive abilities, particularly their oral communication skills (Peñalver & Laborda, 2021). Similarly, e-learning negatively influenced students' writing performance due to limited practice, lack of instructional guidance, poor understanding of the method, and inadequate technological training and materials (Boulhissa, and Laamara, 2022). These factors contributed to a broader decline in communication skills and student motivation.

The decline in effective communication was evident during classroom observations of Grade 11 students in a public Senior High School in Cagayan de Oro. Students often restated lecture slides or gave vague, fragmented responses during oral recitations in their "21st Century Literature" class.

Their lack of depth and clarity reflected existing studies linking the pandemic-driven shift in learning to reduced cognitive and communication skills. The shift in learning practices also affected how students engaged with materials. Many relied on taking photos of lecture slides instead of actively taking notes. While seemingly efficient, this passive approach hindered deeper understanding and increased mind-wandering (Wong & Lim, 2021) contributing to the communication difficulties seen in class.

Aside from these, educational policies like the No Child Left Behind (NCLB) Policy may have further shaped this landscape by promoting students with minimal proficiency, often at the expense of foundational literacy skills (Gatcho, Manuel, & Hajan, 2024). This issue is further reflected in the 2022 Programme for International Student Assessment (PISA) results, where, according to the Organisation for Economic Co-operation and Development (2023), only 24% of Filipino students reached Level 2 or higher in reading comprehension—far below the OECD average of 74%—placing the Philippines 77th out of 81 countries. These findings are alarming, as many Senior High School students struggle to comprehend and critically engage with texts, a gap that poses serious challenges for their academic and future professional success.

The lack of effective communication skills has far-reaching consequences. Students who struggle to express their ideas often perform poorly in tasks requiring higher-order thinking, such as analysis and problem-solving—skills essential for success in school, college, and the workplace. According to Gómez-Veiga (2018), this is important as cognitive skills like verbal reasoning are key to academic success. Though not explicitly mentioned, idea articulation is a vital part of these skills. Moreover, employers increasingly value reasoning, problem-solving, and ideation—abilities closely tied to effective communication (Whiting, 2020). These findings stress the need to strengthen students' ability to articulate their ideas.

To address the students' difficulty in idea articulation, the student-researchers of this paper explored the use of Visible Thinking Routines (VTRs), which are structured routines specifically designed to promote critical thinking, reflection, and discussion across various subjects and classroom settings (Cañas, García & Pinedo, 2018). With its focus on improving students' idea articulation through VTRs, this research adopted an Action Research Design.

This research also aimed to fill a methodological gap, as mentioned by Al-Saraf (2022) in VTRs. While existing VTRs encourage students to connect prior knowledge with new information, collaborate for diverse perspectives, and reflect, they give little emphasis to formulating hypotheses (i.e., making predictions about concepts) and no regard for instructor feedback, both of which are crucial for enhancing students' written idea articulation. As a response, the researchers developed the THINKS routine which stands for Topic Identification, Hypothesis Formulation, Investigation, New Knowledge, and Suggestion. Unlike conventional VTRs, the THINKS routine integrated two key elements: hypothesis-making, where students form predictions and evaluate them through learning, and timely instructor feedback, to reinforce understanding and correct misconceptions. These components may be central to building students' competence and confidence in articulating their ideas.

Thus, this paper primarily aimed to assess the effectiveness of the THINKS routine in enhancing the idea articulation skills of Grade 11 students. By fostering improved communication and critical thinking, the study helped to equip students with the cognitive skills necessary for better academic performance and successful transitions to higher education. Furthermore, it strived to prepare students for the workforce by enhancing their idea articulation and critical thinking skills, which better prepare them for future careers, especially in an increasingly competitive work environment.

1.1. Research Questions

This study aimed to assess the effectiveness of the visible thinking routine THINKS. It sought to answer the following questions:

1. What is the level of the students' idea articulation before and after the implementation of the THINKS routine?
2. Is there a significant difference in the results of students' measured idea articulation before and after the implementation of the THINKS routine?
3. What are the students' experiences while using the THINKS routine?

2. Related Literature

2.1. Visible Thinking Routines

Visible Thinking Routines (VTRs) are structured routines designed to promote deep thinking, reflection, and discussion across various subjects and classroom settings (Cañas, García & Pinedo, 2018). VTRs were developed by researchers at Project Zero—a research group founded by philosopher Nelson Goodman in 1967 at the Harvard Graduate School of Education—and were later spearheaded by Ron Ritchhart, David Perkins, and Mark Church in the early 2000s. VTRs aim to make students' thinking processes visible to both teachers and peers (Corwin, 2023; Kolomitro, Laverty & Lee, 2020; University of Kansas School of Education and Human Sciences, 2021)

Unlike strategies, which may be used only once or sporadically, VTRs are termed “routines” because they become habitual through consistent repetition in the classroom. As students engage in these routines regularly, the thinking processes they promote become second nature, helping them apply critical thinking across different subjects (Cañas, García & Pinedo, 2018; Lei & Jeyaraj, 2023; Ritchhart & Church, 2020).

The core of VTRs lies in their simple yet flexible practices, which encourage students to organize their thoughts and explore diverse perspectives through shared inquiry and collaboration with peers. This routine not only fosters a richer understanding of the subject matter but also builds essential teamwork skills (Cañas, García & Pinedo, 2018; Ritchhart & Church, 2020; Wolberg & Goff, 2017). Additionally, according to Breitwieser et al. (2023), students may also respond individually to routine prompts.

It is important to note that these routines effectively support both lower-order thinking skills (LOTS) and higher-order thinking skills (HOTS). VTRs are particularly effective in LOTS due to their strong visual elements. The human brain processes and retains visual information more efficiently than verbal or textual descriptions. As a result, memory and comprehension tend to improve, leading to more impactful and enduring learning experiences compared to approaches that rely solely on text or spoken explanations (University of Kansas School of Education and Human Sciences, 2021). Moreover, these routines also support the development of HOTS such as critical thinking. Critical thinking is defined as an “intellectually disciplined way of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from observation, experience, reflection, reasoning, or communication” (The Foundation for Critical Thinking, 2019). In simpler terms, critical thinking goes beyond basic factual recall and rote memorization, which are categorized as LOTS, and integrate advanced cognitive skills such as analysis, synthesis, and evaluation (Fisher, 2001).

2.2. Overview of the THINKS Routine

The THINKS routine is a newly proposed Visible Thinking Routine introduced in this study to enhance students' ability to articulate their ideas in English classes. Unlike other VTRs, the THINKS routine uniquely incorporates both hypothesis formulation and instructor feedback, addressing key

gaps in existing routines. Hypothesis formulation plays a vital role in fostering critical thinking, as it encourages students to make predictions based on their prior knowledge, which are later supported or challenged through investigation. Additionally, the inclusion of timely instructor feedback helps correct errors and deepens students' understanding of lesson concepts.

The THINKS routine is structured into five distinct components, each designed to build on the other: Topic Identification (T), Hypothesis Formulation (H), Investigation (I), New Knowledge (NK), and Suggestion (S). Together, these steps promote a comprehensive approach to learning, combining prediction, exploration, and reflective feedback to support student growth and engagement. T – Topic Identification – This component prompts students to identify what the topic is all about. H – Hypothesis Formulation — In this component, students are encouraged to make assumptions, develop predictions, and explore speculations based on their prior knowledge of the topic. I — Investigation — This component requires students to gather evidence from their previous notes, textbooks, and/or handouts to support or challenge their predictions, assumptions, or speculations about the topic. In this study, investigation is done individually. NK – New Knowledge — In this component, students acquire new information by connecting ideas and summarizing their knowledge. This understanding can be expressed in various formats, including concise statements, mind maps, reflective summaries, or conceptual sentences. These methods enable students to articulate their insights effectively and demonstrate their comprehension. S – Suggestion – Finally, the teacher or instructor provides timely and regular feedback or suggestions to help students refine their understanding of the topic and address any misconceptions or errors.

An example of THINKS can be found in the figure below.

Component	Purpose	Sample Response
Topic Identification (T)	Prompts students to identify what the topic is all about	The topic is students' mental health concerns, particularly how school-related stress, academic pressure, and lack of support systems contribute to anxiety, depression, and other mental health issues among students.
Hypothesis Formulation (H)	Students are encouraged to make assumptions, develop predictions, and explore speculations based on their prior knowledge of the topic.	I believe that the increasing academic demands and lack of emotional support in schools are major contributors to students' mental health problems.
Investigation (I)	This component requires students to gather evidence from their previous notes, textbooks, and/or handouts to support or challenge their predictions, assumptions, or speculations about the topic.	From the article by Damsa & de Lange (2022) published in <i>Nordic Journal of Education and Practice</i> , the authors emphasize that emotional well-being is increasingly linked to how students engage with learning environments. They argue that student support must be holistic, involving both academic scaffolding and personal care, especially in light of the rising rates of student burnout and disengagement. This source supports my initial hypothesis and indicates that academic, school environment, and social contexts influence students' mental well-being.
New Knowledge (NK)	Students acquire new information by connecting ideas	Students' mental health is influenced by both personal

	and summarizing their knowledge.	coping capacity and systemic support structures in schools. Without targeted intervention, these challenges can hinder learning, engagement, and long-term academic success.
Suggestion (S)	The teacher or instructor provides timely and regular feedback or suggestions to help students refine their understanding of the topic and address any misconceptions or errors	Teacher Feedback: Your work shows good comprehension and integration of both sources. The NK component is well-articulated, and you made meaningful connections between systemic factors and student experiences. For improvement, consider briefly addressing what specific strategies schools can implement (e.g., peer counseling, mental health days) in your Hypothesis or New Knowledge section. You might also deepen your investigation by comparing pre- and post-pandemic data on student mental health trends.

3. Methods

3.1. Research Design

This study used an Action Research design to address students' difficulty in idea articulation. A mixed-methods approach was employed, combining qualitative and quantitative data to provide a comprehensive evaluation of the THINKS routine's effectiveness.

3.2 Research Setting and Participants

The study was conducted with a Grade 11 class in a public Senior High School, aiming to improve students' idea articulation in their "Reading and Writing" course through the THINKS routine. The school faced challenges such as classroom shortages and limited learning materials, which affected student engagement.

Participants were 16–17-year-old Grade 11 students, with one class of 37 selected through purposive sampling. Selection was based on observed difficulties in expressing ideas during English classes in the first semester of SY 2024–2025.

Only students who submitted both their assent and parental consent forms were included. Those who failed to comply or were absent during the study were excluded. Ultimately, 14 out of 37 students qualified as participants.

3.3 Validity and Reliability of Instruments

The rubric was reviewed by two external validators and was checked for face validity by considering its clarity, format, and wording; for content validity by determining whether the criteria covered all important aspects of idea articulation; and for construct validity by ensuring that the rubric aligned with the theoretical concept it aimed to measure. Their suggestions were incorporated into the final version of the rubric, helping to strengthen its overall validity before testing its reliability.

To ensure consistency of scoring, the interrater reliability of the rubric for measuring idea articulation was tested using Cohen's Kappa with the resulting value of 0.73. This indicated substantial agreement between the two raters, suggesting that the rubric was a reliable tool for measuring the output generated through the THINKS routine.

3.4 Data Gathering Procedure

The researchers first validated the THINKS scoring rubric and tested its reliability using Cohen's Kappa. After finalizing the instrument, they sought approval from the high school principal and obtained consent from the Cooperating Teacher, who was briefed on the study.

The researchers then distributed assent and consent forms to participants and their guardians, outlining the study's purpose and confidentiality. Only students with signed forms were included, and non-participation had no effect on academic standing. The study began with a face-to-face pre-test where students wrote about an English topic without using the THINKS routine. Results were recorded by the Cooperating Teacher as a baseline. The THINKS routine was then integrated into weekly "Reading and Writing" sessions for four weeks from February to March. Students practiced it for 10–15 minutes each session using worksheets with examples. These were ungraded and aligned with the day's lesson to minimize disruption.

A post-test was administered at the end of the intervention to assess improvement in idea articulation. On the same day, a Focus Group Discussion was held to gather participant feedback. The Cooperating Teacher submitted the pre- and post-test worksheets, which were rated by three private school inter-raters to ensure objectivity. Finally, the researchers analyzed the data to evaluate the results.

3.5 Research Instruments, Scoring Guidelines, and Validity and Reliability

The study used two instruments: a researcher-made rubric and a Focus Group Discussion (FGD). The rubric was reviewed by two external validators for face, content, and construct validity. Their feedback was used to improve the final version before reliability testing.

Interrater reliability, measured using Cohen's Kappa, yielded a score of 0.73, indicating substantial agreement and confirming the rubric's reliability. The rubric assessed four criteria—Content, Clarity, Organization and Structure, and Mechanics—each on a 5-point scale for a total of 20 points. These measured idea depth, expression clarity, logical flow, and accuracy in grammar and punctuation.

The following descriptors were used to interpret the mean scores:

Idea Articulation Scoring Guidelines		
Poor Articulation	1.0 – 1.9	Reflects poor articulation, where content is irrelevant or extremely underdeveloped, clarity is severely lacking with ideas that are incoherent or missing, organization is absent with no logical flow, and mechanics are consistently incorrect, making comprehension difficult.
Fair Articulation	2.0 – 2.9	reflects fair articulation, where content is marginally relevant but underdeveloped, clarity is inconsistent with some ideas that are unclear or vague, organization is minimal with a weak or confusing structure, and mechanics include frequent errors that disrupt understanding.
Satisfactory Articulation	3.0 – 3.9	reflects satisfactory articulation, where content is appropriate and adequately developed, clarity is mostly clear though it may include vague or awkward phrasing, organization is generally logical with basic transitions and structure, and mechanics show occasional errors, but the meaning remains clear.
Excellent Articulation	4.0 – 5.0	reflects excellent articulation, where content is thorough, insightful, and fully developed, clarity is strong and engaging with precise

articulation of ideas, organization is seamless and enhances flow and understanding, and mechanics are nearly flawless, demonstrating mastery of language.

A Focus Group Discussion (FGD) was then employed to complement the quantitative data derived from the post-test results utilizing the rubric. These discussions aimed to gather qualitative insights regarding students' experiences with the THINKS routine.

3.6 Data Analysis

The data collected from the pre-test and post-test were analyzed to determine whether there was a significant difference in students' idea articulation before and after the implementation of the THINKS routine. The Wilcoxon Signed-Rank Test was employed to assess this difference, as the data did not meet the assumption of normal distribution. The researchers then employed Braun and Clarke's thematic analysis to make sense of the qualitative data gathered during the FGD.

4. Results and Discussion

4.1. Problem 1. What is the level of the students' idea articulation before and after the implementation of the THINKS routine?

Table 1 presents the level of the students' idea articulation before and after the implementation of the THINKS Visible Thinking Routine.

Table 1. Pre-test and Post-test Results Using the THINKS Routine

	Pre-Test		Post-Test	
	Mean	Description	Mean	Description
Content	3.36	Satisfactory Articulation	4.21	Excellent Articulation
Clarity	3.71	Satisfactory Articulation	4.21	Excellent Articulation
Organization	3.71	Satisfactory Articulation	4.5	Excellent Articulation
Mechanics	3.79	Satisfactory Articulation	4.5	Excellent Articulation
Over-all Score	3.65	Satisfactory Articulation	4.35	Excellent Articulation

Before the intervention, the fourteen (14) students' overall mean score was 3.65, which falls under the descriptive level of Satisfactory Articulation. This level means that content is appropriate and adequately developed; clarity is mostly clear despite some vague or awkward phrasing; organization is generally logical with basic transitions; mechanics show occasional errors, but meaning remains clear. After the implementation of the THINKS routine, the overall mean increased to 4.35, indicating an Excellent Articulation of ideas. Across all four criteria—Content, Clarity, Organization, and Mechanics, there was a noticeable improvement. For example, Content increased from 3.36 to 4.21, Clarity from 3.71 to 4.21, Organization from 3.71 to 4.5, and Mechanics from 3.79 to 4.5. Among the criteria, Content achieved the most increased score (+0.85), followed by Organization (+0.79), Mechanics (+0.71), and Clarity (+0.5).

The substantial improvement in Content for all students who participated may be attributed to how the routine fostered deeper engagement with the topic. As one student remarked during the Focus Group Discussion, *"It helped me a lot in generating more ideas and delving deeper into our topics."* His written output became more detailed, clear, and well-explained, contributing to the overall enhancement of his idea articulation.

Similarly, the marked increase in Organization may be attributed to how THINKS became their efficient note-taking tool. One respondent noted, *"...by using THINKS, I realize that there is a*

better, easier, and nicer way to take notes. I noticed that my note taking skills have developed because my notes are very organized". Because of the routine's organized structure, it streamlined the students' cognitive processing, making it easier for them to organize their thoughts and improve the cohesiveness of their outputs. This enhanced organizational clarity has likely contributed to the broader improvement in their ability to articulate ideas effectively.

As regards the noticeable increase in Mechanics, it may be linked with the routine's structured format, which helped the students to consciously and gradually map out their ideas from one component to another before writing down their answers. This allowed them to make substantial improvements in their grammar, punctuation, and spelling. As one respondent shared, *"I really like the layout of the THINKS based on my experience from my previous lessons because it helped structure my understanding, and when it comes to essays, I was able to reflect my new knowledge, and I was able to incorporate them in my writing."*

The significant increase in Clarity can be associated with the structured nature of the THINKS routine, which served as an effective note-taking tool. By organizing their notes more systematically, students were better able to recall and comprehend key concepts. This, in turn, translated into clearer and more coherent written outputs. As one respondent noted, *"By using THINKS, I realized that there is a better, easier, and nicer way to take notes. I noticed that my note-taking skills have developed because my notes are very organized. I was able to recall and understand my notes easier when I studied."*

In sum, results indicated that the level of students' idea articulation significantly improved from Satisfactory to Excellent after the THINKS routine was consistently applied in each session for 10 to 15 minutes. To reiterate, Excellent Articulation means the content is clear, detailed, and well-explained; the ideas are expressed in an engaging and accurate way; the writing is well-organized; and there are very few or no errors in grammar and spelling—showing mastery of the language.

These findings confirm what Shanmugam, Chew & Ng (2024) mentioned that writing is the best platform to enhance a student's critical thinking and communication skills. They also support the claim that critical thinking is honed when students are given the opportunity to write about topics discussed in class, especially those that are relevant in their contexts (Al-Mahrooqi, & Denman, 2020). Moreover, the present results also corroborate the findings that Visible Thinking Routines encouraged students to mentally engage with content through offering their ideas, explanations, justifications, interpretations, reasons, evidence, perspectives, and alternatives (Ritchhart & Perkins 2017).

Since the THINKS routine was implemented four (4) times, with each iteration spanning 10 to 15 minutes during their *"Reading and Writing"* classes, it served as a structured scaffold that guided them in various stages of thinking—from *"Topic Identification"* to *"Hypothesis Formulation"*, and from *"Investigation"* to *"New Knowledge"*. These stages of thinking allowed them to critically engage with texts, thereby empowering them to articulate their ideas coherently, clearly, and insightfully in writing. By consciously and gradually mapping out their thoughts before writing them down in the worksheet, the routine supported them in articulating their ideas more effectively. These gradual scaffolding of cognitive tasks aligned with Vygotsky's notion of the Zone of Proximal Development (ZPD), which refers to the difference between what learners can do independently and what they can accomplish with guidance (Ritchhart & Perkins, 2017). THINKS operated within this zone by offering guided steps that helped learners progress from basic recall and comprehension to a more advanced written articulation.

For instance, in *"Topic Identification"*, the routine encouraged the students to first identify a topic related to their class. This component fostered lower order thinking skills such as retention and comprehension. By clearly defining what their topic was about in the THINKS routine worksheet, students could better organize their thoughts and subsequently integrate new information, leading to improved retention and comprehension.

In the “*Hypothesis Formulation*”, students were prompted to make guesses or predictions based on the topic they had identified. This component served as a bridge between lower and higher-order thinking skills, as students analyzed the concepts involved, recognized underlying patterns, and formulated plausible assumptions related to the identified topic and wrote them down using the worksheet.

Their assumptions were either supported, challenged, or refined during the “*Investigation*”. Here, students engaged more deeply with the content, critically analyzing and evaluating information drawn from the texts. Through structured writing tasks in the worksheet, they developed a more nuanced understanding of the topic. This process enhanced their critical thinking and enabled them to articulate their ideas more clearly and effectively in writing.

The newly learned information drawn from “*Investigation*” were subsequently synthesized and summarized by the students in “*New Knowledge*”. Here, they wrote their new learning through concise statements, conceptual sentences, or reflective summaries. This stage not only consolidated their understanding of the topic, but also substantiated their learning, allowing them to make meaningful connections across ideas. As a result, it contributed to improved critical thinking and more refined idea articulation, as students were able to express their insights in a clear, coherent, insightful, and well-structured manner.

In sum, each component was significant in achieving excellent articulation. One respondent shared, “*Hypothesis is my favorite part because it allows me to think beforehand as to what the lesson is all about. And from that, I am able to clarify later in “Investigate”, which is also my favorite, and determine whether or not my hypothesis is correct by comparing or contrasting. After that, I am able to apply my new learning in New Knowledge. I really like it because it’s very organized and the order is very nice. Because when I take notes, sometimes I get confused as to the topic I’m learning, but because of Topic Identification, it clarifies my note taking. So I really like its structure*”.

Although the intervention was limited, repeated exposure to this structured thinking process may have contributed to the observed improvement in their ability to articulate their ideas about their lessons through writing. These are consistent with the finding that the regular use of routines and structured steps supports students in gradually improving their thinking and comprehension, while also making their thought processes more visible (Ritchhart & Perkins, 2017). Similarly, these results confirm the findings from the study of Panes-Arenga (2021) which mentions that the use of Visible Thinking Routines enhances reading comprehension.

4.2. Problem 2. Is there a significant difference in the results of students’ measured idea articulation before and after the implementation of the THINKS routine?

Table 2 presents the results of the Wilcoxon Signed-Rank Test, which was used to determine whether there was a significant difference in students’ idea articulation before and after the THINKS intervention.

Table 2. Wilcoxon Signed-Rank Test

	W Statistic
Content	4.00**
Clarity	5.00*
Organization	0.00**
Mechanics	3.5**
Over-all Score	1.00***

The Total Score yielded a Wilcoxon statistic of 1.00 and a p-value of < 0.001 , indicating a highly significant difference. Similarly, the components of Content ($w = 4.00$, $p = 0.001$), Clarity ($w = 5.00$, $p = 0.003$), Organization ($w = 0.00$, $p = 0.002$), and Mechanics ($w = 3.00$, $p = 0.003$) all showed p-values below the 0.05 significance level. These results confirm that the improvements in students' writing performance were statistically significant. Thus, the implementation of the THINKS Visible Thinking Routine led to a meaningful enhancement in the students' ability to articulate their ideas effectively in writing.

This statistical evidence supports the effectiveness of the THINKS routine in enhancing students' ability to articulate their ideas more effectively in writing. It supports the findings that Visible Thinking Routines stimulate students' cognitive engagement with content by prompting them to offer explanations, justifications, interpretations, reasons, evidence, perspectives, and alternatives (Ritchhart & Perkins, 2017). In essence, these routines foster critical thinking, reflection, and meaningful classroom discussion.

THINKS, the VTR developed in this study, was designed to help students express their ideas better in their "*Reading and Writing*" classes. The results show that the said routine did help. Being able to express ideas well is closely connected to critical thinking. To articulate their ideas effectively, students must go beyond mere recall or basic comprehension—they need to analyze, organize, and synthesize information. These cognitive skills belong to higher-level thinking skills (Fisher, 2001). Writing, as a way of expressing ideas, uses many of the same skills as critical thinking, like planning, organizing, forming arguments, and using correct grammar and punctuation (Dunn, Halonen & Smith, 2008).

The difference between the students' level of idea articulation between the pre-test and post-test was clearly observable. As stated above, during the classroom observation, the student-researchers noticed that the students' responses during their oral recitation in their "*21st Century Literature from the Philippines and the World*" class were fragmented, vague, and lacked depth. This observation was corroborated in the results of the pre-test, which reflected that the students' idea articulation was only at "Satisfactory" level. To reiterate, the said level means that content is appropriate and adequately developed; clarity is mostly clear despite some vague or awkward phrasing; organization is generally logical with basic transitions; mechanics show occasional errors, but meaning remains clear.

However, when the THINKS routine was introduced and subsequently underwent four (4) iterations, this time, in their "*Reading and Writing*" subject, their level of idea articulation increased to a level higher—from "Satisfactory Articulation" to "Excellent Articulation". To underscore, Excellent Articulation means that the content is clear, detailed, and well-explained; the ideas are expressed in an engaging and accurate way; the writing is well-organized; and there are very few or no errors in grammar and spelling—showing mastery of the language.

The increase of the students' idea articulation through writing may be attributed to the THINKS routine, which essentially served as a structured scaffold that guided them in the various stages of thinking and writing, such as identifying, hypothesizing, investigating, and synthesizing information. Shabani, Khatib & Ebadi (2010) mention the cognitive tasks of the routine correspond with Vygotsky's concept of the Zone of Proximal Development (ZPD), which highlights students' extent of independent achievement as compared to their degree of accomplishment with guidance. THINKS offered structured support on the students' written expression of ideas from "*Hypothesis Formulation*" to "*New Knowledge*".

In "*Topic Identification*," the routine guided students to first pinpoint a topic relevant to their class. This stage supported lower-order thinking skills such as remembering and understanding. By identifying their topic using the THINKS routine worksheet, students were able to organize their thoughts more effectively, which in turn helped them retain and comprehend new information. While during "*Hypothesis Formulation*," students were encouraged to make predictions or educated guesses

based on the topic they had identified. This stage served as a transition between lower- and higher-order thinking, as students began analyzing the topic, recognizing patterns, and forming logical assumptions, which they recorded on the worksheet.

These assumptions were either confirmed, challenged, or adjusted in the “*Investigation*” phase. At this point, students engaged more critically with the material, analyzing and evaluating information from various texts. Through structured tasks in the worksheet, they developed deeper insights into the topic. This process strengthened their critical thinking and improved their ability to articulate ideas clearly and effectively in writing.

Finally, in the “*New Knowledge*” stage, students synthesized and summarized what they had learned from the “*Investigation*”. They expressed their new insights through concise statements, conceptual summaries, or reflective responses. This stage not only reinforced their understanding but also helped them make meaningful connections across concepts. As a result, it further enhanced their critical thinking and led to more precise and structured idea articulation.

This implies that each component of the routine is important and altogether, they are inseparable and interdependent. As one student explained, “*Hypothesis is my favorite part because it allows me to think beforehand as to what the lesson is all about. And from that, I am able to clarify later in “Investigate”, which is also my favorite, and determine whether or not my hypothesis is correct by comparing or contrasting. After that, I am able to apply my new learning in New Knowledge. I really like it because it’s very organized and the order is very nice. Because when I take notes, sometimes I get confused as to the topic I’m learning, but because of Topic Identification, it clarifies my note taking. So I really like its structure*”.

These align with the findings that regularly using routines and structured steps helped students gradually improve the way they think and understand things, and that they make the learners’ thinking visible (Ritchhart & Perkins, 2017). Likewise, these findings support a study which demonstrated that implementing Visible Thinking Routines significantly enhances students’ reading comprehension (Panes-Arenga, 2021).

Considering the above-mentioned discussions, the THINKS routine successfully enhanced the students’ ability to coherently, clearly, insightfully, and orderly articulate their ideas about their lessons in “*Reading and Writing*”. Despite the limited number of iterations, the consistent and structured application of the routine contributed meaningfully to the development of their higher-order thinking and communication skills.

4.3. Problem 3. What are the students’ experiences while using the THINKS routine?

THINKS Enhances Critical Thinking in Writing

The Focus Group Discussion (FGD) revealed that the THINKS routine significantly improved students' critical thinking, particularly in writing tasks. Students shared how its step-by-step structure helped them analyze, organize, and deepen their ideas. For example, one student noted that THINKS aided in generating and elaborating ideas for written outputs like application or excuse letters, allowing for more thoughtful and well-developed responses. This structure encouraged them to move beyond superficial answers and engage more meaningfully with their writing.

Another student detailed how each component of the THINKS routine—Topic Identification, Hypothesis Formulation, Investigation, and New Knowledge—promoted systematic thinking. She appreciated how the method allowed her to predict, explore, and confirm her understanding, which enhanced her study habits and comprehension. Her metacognitive reflection aligns with the emphasis that Visible Thinking Routines foster awareness of one’s thinking processes and support deeper learning (Ritchhart & Perkins, 2017).

Furthermore, THINKS encouraged independent thinking in settings where students couldn't rely on technology. One student shared how the routine helped her generate and organize ideas during an essay test without the use of smartphones or online tools. Structured cognitive routines reduce mind-wandering and reliance on external aids (Wong & Lim, 2021). Overall, student testimonies highlight how THINKS cultivates critical thinking, independence, and reflection—skills crucial for academic success and future learning.

THINKS Promotes a Well-structured Thinking Process

The Focus Group Discussion (FGD) revealed that students greatly valued the structured and sequential flow of the THINKS routine. They found its step-by-step format helpful for organizing their thoughts during notetaking, class discussions, and writing tasks. This clear cognitive framework reduced confusion and promoted more focused and purposeful thinking. One student emphasized how the routine improved her ability to recall and summarize information by offering an orderly layout that made learning more coherent and manageable.

Further illustrating this point, one student detailed how each THINKS component—Topic Identification, Hypothesis Formulation, Investigation, and New Knowledge—guided her through a logical learning process. She described how making predictions, verifying them through investigation, and applying new insights deepened her understanding. Similarly, another student highlighted how the step-by-step structure helped him recall terms and apply concepts in various academic activities. He also shared how the Investigate step supported his curiosity by allowing him to delve deeper into topics, ultimately leading to more meaningful learning.

Collectively, these reflections suggest that the THINKS routine effectively scaffolded students' cognitive processes, fostering clarity, engagement, and metacognitive growth. It helped students transition from guessing and hypothesizing to verifying and applying knowledge, which enhanced their comprehension and communication skills. Structured thinking routines like THINKS make students' thought processes visible, thus improving their ability to organize, articulate, and internalize knowledge—skills that are essential for academic and lifelong learning (Ritchhart & Church, 2020).

THINKS as an Efficient Note-taking Tool

The Focus Group Discussion (FGD) highlighted how the THINKS routine significantly improved students' note-taking practices by offering a structured and efficient method. Students shared that the routine helped them focus on key points, process information meaningfully, and recall ideas more effectively. For instance, Student 5 noted that before THINKS, his notes were lengthy and unorganized. With THINKS, he was able to create concise summaries that improved his recall and understanding, especially when he was balancing academic tasks with club responsibilities and had limited study time.

Students also emphasized the value of THINKS during fast-paced classroom presentations. Student 2 pointed out that in subjects where teachers moved through slides quickly, THINKS helped her focus on essential content rather than trying to write everything down. This made her note-taking more efficient. Similarly, Student 3 shared that THINKS enabled her to capture key points quickly, while Student 6 noted that even when he chose to listen rather than take notes, the THINKS structure allowed him to effectively identify important information and organize it for future study. These experiences show how the routine supported students in managing high-speed lessons and minimizing cognitive overload.

These reflections are supported by research by Salame, Tuba & Nujhat (2024), Rusdiansyah (2019), and Lichty (2022) which shows that structured notetaking enhances retention and comprehension. By regularly using THINKS, students were able to personalize their note-taking style while maintaining organization and clarity across lessons. The routine promoted active engagement, deeper processing, and stronger long-term learning outcomes. Ultimately, THINKS not only improved how students took notes, but also helped them internalize knowledge and apply it more confidently in academic settings.

THINKS Supports Writing Activities and Exercises

The Focus Group Discussion (FGD) revealed that beyond improving reading comprehension, the THINKS routine also played a crucial role in supporting students' writing tasks. Students shared that the routine provided a structured framework that helped them organize their ideas logically and clearly. This clarity in thought translated to more coherent and focused written outputs, whether they were crafting essays, formal letters, or academic papers. As students became more confident in using the routine, they were able to generate ideas more effectively and approach various writing tasks with greater ease and purpose.

Student 1 shared that THINKS helped him generate ideas and explore topics more deeply, especially in writing formal letters such as application or excuse letters. This reflects how the routine served not only as a cognitive tool but also as a practical strategy for tackling real-world writing tasks. Similarly, Student 3, despite joking about her lack of experience writing excuse letters, found that the structured approach of THINKS made such tasks more approachable, reinforcing how the routine builds confidence even in unfamiliar writing contexts.

Student 2 further highlighted how THINKS supported her during a post-test essay where external resources were not allowed. She credited the routine for helping her think creatively and structure her ideas effectively, showing its usefulness in high-stakes assessments. This aligns the assertion that structured writing frameworks can enhance both creativity and critical thinking by prompting deeper engagement with the topic (Al-Mahrooqi & Denman, 2020).

Student 4 echoed this by explaining that THINKS helped her reflect on and incorporate new knowledge into her essays, thereby promoting meaningful learning transfer. The routine enabled her to link her understanding with her writing, improving both content depth and clarity. Similarly, Student 6 shared that THINKS aided in organizing information while preparing for their research defense. Though not confident in writing, he found that the routine helped him highlight and structure key ideas, making complex academic tasks more manageable.

These experiences demonstrate that THINKS not only supports fundamental writing tasks but also scales well for more advanced academic requirements like research writing. Students found it easier to manage information, synthesize content, and express their understanding in writing—skills essential for academic success and professional communication.

Taken together, the reflections support the conclusion that the THINKS routine empowers students to write with greater organization, clarity, and creativity. It provides a dependable structure that scaffolds idea generation, enhances comprehension, and promotes critical thinking. By integrating THINKS into writing instruction, educators can help students produce more effective and confident written work across a range of contexts.

THINKS is Flexible Across Subjects

A key insight from the discussion was the adaptability of the THINKS routine across different subjects. Though originally designed for the English subject "Reading and Writing," students shared that they also applied THINKS in areas like Mathematics and Research, using its structure to organize ideas, recall information, and deepen understanding.

Student 4 described THINKS as a "structured way of active recall," helping her retain key Math concepts, while also noting that it was most effective in literacy-focused subjects due to the demand

for idea processing. Student 6 similarly shared that THINKS helped him prepare for their research defense by organizing and synthesizing key ideas for their Review of Related Literature.

These reflections support the view that Visible Thinking Routines can be applied across various subjects (Ritchhart & Perkins, 2017). In this case, THINKS served as a flexible framework for critical thinking, note-taking, and reflection beyond English.

Its cross-subject use highlights THINKS as more than a writing tool—it's a cognitive strategy that fosters deeper learning, organization, and engagement across disciplines. By integrating THINKS in various courses, educators can help students develop transferable skills that support both academic success and lifelong learning.

Areas for Improving the THINKS Routine

Some students expressed the need for clearer guidance when first using the THINKS routine. While overall feedback was positive, participants shared that certain components, especially "Investigation" and "New Knowledge", were initially confusing due to overlapping definitions. This made it difficult for some to distinguish how each part should be used. Student 1 suggested expanding the definitions for better clarity, noting that more explanation would help first-time users. Similarly, Student 4 shared their confusion about where to place newly gained knowledge, asking for more clarification between closely related components. Despite these challenges, students adapted over time. They learned that "Investigation" focuses on gathering and analyzing information, while "New Knowledge" involves synthesizing and applying what was learned. Support from their teacher and strategies like re-reading definitions or reviewing examples helped students overcome initial confusion.

Student 5 emphasized the need for contextualized examples to avoid mix-ups between similar components. These insights suggest that while THINKS is accessible, clearer instructions and concrete examples are essential for helping students understand and apply each step correctly from the beginning.

Examples are crucial in making abstract concepts more understandable (Rawson, Thomas & Jacoby, 2014). For THINKS, integrating specific and contextual examples into instruction can ease the learning curve and promote quicker mastery.

Sustained Benefits of THINKS Despite Limited Feedback

Despite not receiving immediate feedback on their worksheets, students still had a positive perception of the THINKS routine. Delays in feedback were due to time constraints, class interruptions, and administrative duties, which also led to fewer implementations than originally planned. Only four of the intended six sessions were completed, and the cooperating teacher faced similar challenges in providing timely responses.

Still, students remained engaged and found the routine valuable. Student 4 shared that the structure became easier to follow with continued use, highlighting how they gradually adjusted despite the lack of feedback. This persistence reflects students' growing autonomy and belief in the usefulness of THINKS. However, the lack of timely and constructive feedback may have limited the full potential of the routine. Feedback is crucial for reinforcing learning and clarifying misunderstandings (Hattie & Timperley, 2007; Holl, Elberzhager and Tamanini, 2016).

Overall, students appreciated THINKS for helping them develop critical thinking, organize their thoughts, improve notetaking and writing, and apply the routine across different subjects. Despite implementation challenges, the routine positively impacted their ability to articulate and structure ideas effectively.

5. Conclusion

With the THINKS routine, students' ability to express and articulate their ideas in writing substantially improved. This is seen in how the routine was helpful in improving their idea articulation by repetitively engaging with it as their mental scaffold, allowing them to be more mindful of how their ideas are generated and presented before they finalize their answers. Such a phenomenon is rarely observed and felt inside the classroom since there is a need to immediately accomplish a task. Thus, providing students with a particular amount of time and structure to help map out their thoughts and ideas more effectively. The Focus Group Discussion further revealed that the THINKS routine enhances critical thinking in writing, promotes a well-structured thinking process, serves as an effective note-taking tool, supports writing tasks and exercises, and is perceived as flexible enough to be applied across various subject areas.

In sum, the quantitative and qualitative data of the study revealed convergence, as both support the assumption that the THINKS routine enhances students' idea articulation. Because of the routine's cyclical format and repetitive nature, students became more aware of how they produce, reason, and present information, so that they could better structure and articulate their ideas by synthesizing them succinctly and autonomously. However, like any pedagogical strategy, the THINKS routine, especially during the implementation phase, presented certain challenges and revealed areas for further improvement. In addition, there were also areas that were not explored in the current study. In light of these, the following recommendations are proposed to teachers and/or researchers to enhance the routine's effectiveness and guide future applications and research.

It is recommended that educators and researchers implementing THINKS provide clearer definitions and contextualized examples for each component to support student understanding, particularly for beginners. Teacher feedback should also be integrated into future applications to improve students' ability to articulate ideas. Increasing the frequency of THINKS use will help students become more comfortable with the routine and enhance their skills over time. Future studies should involve a larger and more diverse sample across different strands and schools to assess the routine's broader applicability. To promote inclusivity and sustain student engagement, THINKS can be delivered through various formats such as visual aids, group work, and hands-on activities. Teachers may also develop or combine it with other Visible Thinking Routines to create a more dynamic learning environment. Exploring THINKS' use in other subjects like Science, Araling Panlipunan, and Literature will help evaluate its cross-disciplinary potential. Finally, integrating the routine into digital platforms or learning management systems can enhance its accessibility and effectiveness in blended or online learning contexts through interactive and reflective tools.

Acknowledgment

The researchers wish to thank Dr. Edralin C. Manla, Dr. Hasima Salic, Mr. Ismael Salarda, Mr. Albin Jay C. Tabamo, Mr. Raymond A. Ybañez and Dr. Maribeth M. Cabrejas for generously sharing their time and expertise that led to the completion of this research.

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