

# The Influence of a Mother Tongue-Based Teacher Read-Aloud Module on Higher Order Thinking Skills among Kindergarten Pupils: A Case Study

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## ABSTRACT

This study aimed to explore the influence of a developed mother tongue-based teacher read-aloud module on the Higher Order Thinking Skills (HOTS) among kindergarten pupils. Using a qualitative case study approach, interviews and observations were conducted with teachers and pupils from two kindergarten classes in rural and urban settings in a province in the Philippines. Thematic analysis of the data revealed that the module positively influenced pupils' HOTS, as demonstrated by enhanced analytical competence in processing information, strengthened evaluative competence in assessing information, and improved creative competence in producing prompt-responsive outputs. Furthermore, no rural-urban differences were observed in the module's influence on pupils' HOTS. The study recommends the use and integration of the module in regular teaching in classrooms with similar context as it is found to be comprehensive, inclusive, and pedagogically sound.

**Keywords:** Higher Order Thinking Skills (HOTS), Mother Tongue, Read-Aloud, Kindergarten Pupils

## INTRODUCTION

The teaching of Higher Order Thinking Skills (HOTS) is increasingly recognized as an essential component of 21st-century education in order to equip learners with critical thinking and problem-solving skills required to succeed in their academic and daily lives (Armala et al., 2022; Mayor, 2024; Nurmaharaeni et al., 2022; Rahmadani et al., 2023). Defined as an in-depth thinking process encompassing critical thinking abilities exhibited in making comparisons, analyses, and assessments; innovative and creative thinking skills manifested in use of problem-solving strategies and creation of new ideas; collaboration skills displayed in working effectually with others; and communication skills demonstrated in expressing ideas effectively in various ways (Sutama et al., 2021), HOTS include the top three levels of the revised Bloom's taxonomy, namely, analyze, evaluate, and create in contrast to the Lower Order Thinking Skills (LOTS) which cover remember, understand, and apply (Armala et al., 2022; Ballakrishnan & Mohamad, 2020; Bordin et al., 2022; Krathwohl, 2002; Munar et al., 2022).

UNESCO (2015) underscored the importance of cultivating HOTS even in early childhood by advocating for at least one year of free, compulsory, and quality kindergarten education that enables children to construct meaning about themselves and the world around them. In the Philippines, this priority is reinforced through the Kindergarten Act (Republic Act No. 10157, 2012), which mandates free and compulsory kindergarten education for five-year-old children prior to Grade 1. The Act emphasizes that pre-primary education should not only support cognitive, socio-emotional, and physical development, but also foster technical skills. This highlights that kindergarten education is designed to promote the development of HOTS, preparing children not only for formal schooling but also for life beyond the classroom. The Enhanced Basic Education Act (Republic Act No. 10533, 2013) further supports this priority by emphasizing that graduates of basic education

should develop competencies essential for lifelong learning, gainful employment, and productivity; demonstrate creative and critical thinking; live harmoniously within society; and possess the capacity and disposition to transform themselves and others—all of which require the application of HOTS.

Despite the great importance placed on the development of HOTS, fostering high-level thinking among learners remains a persistent challenge as classroom practices often emphasize basic recall and rote learning rather than deeper cognitive engagement; thus, learners do not sufficiently meet the HOTS required to respond to the demands of today's society (Armala et al., 2022; Astrid et al., 2022). This lack of depth in the teaching of HOTS is attributed to inconsistencies in lesson planning and use of unengaging teaching strategies and inappropriate instructional materials among teachers (Bordin et al., 2022; Ginting & Kuswandono, 2020; Masnan et al., 2020; Nurmaharaeni et al., 2022), as well as ineffective design of assessments in terms of distribution of number of items, choice of test formats, and wording of items (Lian, 2023; Musliha et al., 2021). Moreover, content of textbooks or course books are also found to be inadequate in enabling mastery of higher-level thinking skills, focusing more on factual knowledge than meaning-making and other higher level activities (Qasrawi & Abdelrahman, 2020; Shinto et al., 2023).

The use of mother tongue is widely considered as a critical factor influencing the development of HOTS as learners are able to construct meaning more effectively when instruction is delivered in the language that they are most comfortable with and understand most intimately (Shaeffer, 2020; Trujillo, 2020). In addition, they engage in learning tasks more actively and make clearer, stronger connections between their lessons and their real-life experiences (Degu, 2022; Janaban, 2025; Trujillo, 2020).

In the Philippine context, the Kindergarten Education Act (R.A. No. 10157, 2012) does not only provide for free and mandatory preschool education, but it also emphasizes the importance of using the mother tongue or first language (L1) by mandating the adoption of Mother Tongue-based Multilingual Education (MTB-MLE) method in which the L1 of the learner is utilized as the primary medium of instruction (MOI) in the kindergarten level. Anent to this, R.A. No. 10533 (2013) mandates the use of mother tongue in all instructional materials and assessment tools in kindergarten and the first three years of elementary education (Grades 1, 2, and 3).

The Department of Education (DepEd) identified 12 major languages (Tagalog, Kapampangan, Pangasinense, Iloko, Bikol, Cebuano or Sinugbuanong Binisaya, Hiligaynon, Waray, Tausug, Maguindanaoan, Maranao, and Chabacano) out of 187 major languages in the Philippines to be used as MOI and to be offered as learning areas (Department of Education, 2012; Igarashi et al., 2024). Among them, Sinugbuanong Binisaya is regarded as one of the most important with over 15 million users throughout various provinces of Visayas and Mindanao (Simons & Fennig, 2018); however, the location of these provinces which is far from the seat of government, the City of Manila, coupled with the highly centralized structure of DepEd, poses problems in the implementation of MTB-MLE (Second Congressional Commission on Education, 2024) as there is a dearth of instructional materials written in the said language (Gorgonio, 2024; Lusares et al., 2023; Trujillo, 2020; Villafuerte, 2024).

One instructional strategy that holds promise in developing HOTS among young learners is the teacher read-aloud. Read-aloud activities provide opportunities for learners to engage with texts beyond surface-level understanding through guided questioning, discussion, and reflection. When effectively implemented, read-alouds can stimulate learners' ability to communicate, collaborate, and problem-solve with their classmates which are key components of HOTS (Bintz, 2023; McCallum, 2024; Senawati et al., 2021; South Dakota State Library, 2024). In the Philippines, read-alouds, referred to as "listening to stories," is identified as one of the primary strategies to be used in teaching kindergarten, recognizing its importance as a pedagogical practice (Republic Act No. 10157, 2012).

Despite its potential, problems persist in the use of read-aloud such as the lack of consideration of pupils' interests and cultural contexts in book selection, undermining one of the benefits of read-aloud which is to enable pupils to create meaning effectively between the text and their own life experiences while taking pleasure and enjoyment in the process (Delgado, 2021; Ness, 2020). In addition to this, there is a lack of planning and intentionality in the conduct of read-aloud with teachers mainly using it as a strategy for

classroom management and teaching word definition. This limits opportunities for learners' literacy and literary development, and ultimately for developing HOTS (Håland et al., 2021).

In view of the limited instructional materials that intentionally integrate HOTS in early childhood educational settings and the dearth of studies on use of read-aloud strategy within mother tongue-based approaches, the present study explores the influence of a developed mother tongue-based teacher read-aloud module on the HOTS among kindergarten pupils based on the three highest levels of the revised Bloom's taxonomy, namely, analyze, evaluate, and create. It offers insights into how early educational interventions can be designed to support meaningful and higher-level learning among young learners, highlighting the role of mother tongue- and HOTS-based read-aloud practices.

## **METHODOLOGY**

### **Research Design**

The study employed qualitative case study, which is defined as a design of inquiry that deals with rigorous analysis of a case such as a program, activity, process, or individual (Creswell, 2014). As Heale and Twycross (2018, p. 8) maintained, case study is commonly used in the field of evaluation as it "provides a framework for evaluation and analysis of complex issues." This design suited the study effectively as its primary purpose is the assessment of the influence of the mother tongue-based teacher read-aloud module on the HOTS among two kindergarten classes from rural and urban settings, which were used as the unit of analysis (Merriam, 2009).

### **Participants**

Two cases participated in the study, consisting of a kindergarten class in a town or municipality for urban area and a kindergarten class in a barangay for rural area. The cases were purposively selected based on their general location, which is the province of Surigao del Sur in Caraga Region wherein Sinugbuanong Binisaya is predominantly used as mother tongue. Both the teachers and the pupils (16 in each class) were included in the study for triangulation of sources of data.

### **Instruments**

To gather data on the influence of the mother tongue-based teacher read-aloud module on the HOTS among kindergarten pupils, an observational protocol was employed to systematically observe the participants in the actual setting and document the interaction between the teacher- and the pupil-participants while the read-aloud activities were being implemented. Interview protocols for the pupils and the teachers were also utilized to gather more data after the implementation. The interview protocols contained semi-structured open-ended questions, which were designed for probing for participants' explanations and elaborations (Creswell, 2014).

The instruments were validated by five language and research experts and were pilot tested for further refinement. The interview protocols were pilot tested to two kindergarten teachers and three kindergarten pupils while the observation protocol was pilot tested during the first week of implementation of the module. The data collected was not included in the analysis, but was utilized to inform the refinement of the instrument.

### **Data Collection Procedure**

Data collection began after organizing the learning environment, which included training the teacher-participants in both cases on how to use the module and providing them with the necessary materials and equipment such as LCD projectors and art materials. Since both cases were well-matched in terms of classroom facilities, light and ventilation, and other aspects, there were no major changes made to the classroom setup.

Data was collected mainly through observations conducted during the 12-week implementation of the module. To gather rich and uncontrived data from the participants who usually feel inhibited or behave differently when observed by people who are not usual part of their natural setting (Creswell, 2014), the researcher made

sure that the learners were familiar with her by going to the research sites several times before the implementation. The observations were videotaped with the participants' permission.

For triangulation to ensure credibility and trustworthiness of data (Creswell, 2014; Holliday, 2016; Merriam, 2009), interviews were also conducted to the teachers and the pupils in both cases. Pupils' artworks in the "create" activity were gathered as data as well.

### **Data Analysis**

Thematic analysis was used to analyze both observation and interview data. The analysis began by transcribing verbatim the videotaped observations and interviews and reading the transcribed data to obtain a general idea of the meanings that the participants were trying to convey. The transcriptions were then coded manually using a combination of predetermined and emerging codes (Creswell, 2014) with the HOTS in the revised Bloom's taxonomy of objectives as predetermined or *a priori* themes.

Themes and sub-themes were then developed, with the researcher consulting regularly with a colleague for peer debriefing to enhance validity. The themes and sub-themes with their descriptions were also sent to the teacher-participants for member checking to ensure accuracy (Creswell, 2014; Creswell & Creswell, 2018). Finally, interpretation of the themes was done.

The participants' artworks were also analyzed by describing the artworks, especially those that show HOTS by responding creatively and critically to the given prompts (Holliday, 2016). The researcher coded these descriptions and included them in the thematic analysis.

### **The Intervention: The Developed Mother Tongue-based Teacher Read-Aloud Module**

To respond to the need for mother tongue-based instructional materials in kindergarten, the developed module uses Sinugbuanong Binisaya in developing kindergarten pupils' HOTS through systematic conduct of teacher read-alouds. The module contains five read-aloud stories and series of activities specifically designed to promote HOTS. These stories are based on the Philippine kindergarten curriculum guide, ensuring that their contents are aligned with the weekly content foci of the curriculum. Using the content foci as themes of the stories and the activities enables pupils to focus on one lesson or value and facilitates meaning-making.

Moreover, the stories revolve around a child as the main character to make them relatable and interesting to the pupils. The main character displays behavior common among young children such as sulking, complaining, sometimes feeling afraid and insecure, but in the end, he always learns valuable life lessons from his experiences. Other characters include parents, siblings, and grandparents who possess characteristics typical of Filipino family members to make the stories localized and contextualized, strengthening literature and real-life connection.

Furthermore, the stories have simple, easily understandable plots that tackle themes and events within the sphere of experience of the pupils such as grooming and hygiene, family relationships, celebrations, responsibilities at home, and others. Not only are the stories highly plausible and relevant, they are also value-laden, teaching values like love of family, kindness, and sense of responsibility.

The module also follows before-reading, during-reading, and after-reading procedures for read-alouds, with each read-aloud taking five to six sessions to finish and the implementation of the whole module taking 12 weeks. Before-reading activities include introduction of the story, asking schema-related and motivation questions, and unlocking of difficult vocabulary, while during-reading activities cover the reading of the story and the development of the content foci and the HOTS. HOTS-based activities include asking questions that scaffold pupils from LOTS to HOTS, analyzing pictures and situations, guided role-plays or dramatizations, simplified debates, and games. Finally, after-reading activities involve creating art that responds to a given prompt to enable pupils to assimilate and integrate the skills that they have learned in the previous stages.

In addition, the module utilizes Microsoft PowerPoint in the read-alouds to make the stories more accessible to teachers who will use them. Employing PowerPoint also facilitates the presentation of the stories and the

conduct of interactive activities, and more importantly, attracts and sustains pupils’ attention through enlarged display of prints and illustrations.

Another significant feature of the module is the provision of read-aloud story guides that indicate the “voice” and the pacing that the teacher-reader will use to convey effectively the traits of the characters and the moods and emotions in the stories. The use of highly legible texts and warm-colored illustrations that are cartoonish but still realistic, relatable, and endearing to the pupils is also an important feature of the module.

## RESULTS

### Influence of the Developed Mother Tongue-based Teacher Read-Aloud Module on the HOTS among Kindergarten Pupils

The thematic analysis of the observations and the interviews among participants in both rural and urban kindergartens revealed positive results in all three highest levels of the revised Bloom’s taxonomy, “analyze,” “evaluate,” and “create,” which were used as predetermined themes. Main themes obtained in the analysis include (1) enhanced analytical competence in processing information, (2) strengthened evaluative competence in assessing information, and (3) improved creative competence in producing prompt-responsive outputs. A summary of the themes and sub-themes is presented in Table 1.

Table 1 Summary of Influences of the Mother Tongue-based Teacher Read-Aloud Module on Kindergarten Pupils’ HOTS

Themes	Sub-themes
Enhanced analytical competence in processing information	Identifying causes and effects
	Drawing inferences
	Associating new concepts with previously learned concepts
Strengthened evaluative competence in assessing information	Making a choice or taking a stand
Improved creative competence in producing prompt-responsive outputs	Creating artworks in response to a prompt

The first theme pertains to the influence of the module in enabling pupils to examine information, break it down into its simpler component parts, identify its component ideas, and determine the relationship of these ideas. It includes the pupils’ ability to identify causes and effects, draw inferences from cues, and make associations between the new concepts that they are presently learning with concepts that they have learned in the past.

Pupils’ ability to identify causes is primarily manifested when they are able to explain the motivation behind the characters’ actions. By asking pupils questions that enable them to examine each piece of information, and then asking “why” questions, teachers scaffold pupils in combining these pieces of information together and coming up with the characters’ motives that in turn lead to the identification of the main idea or the values taught in the story. On the other hand, pupils’ ability to identify effects is mainly shown when they are able to give the consequences of the characters’ actions through analysis of visual cues, use of repetitive lines that point to a resulting event, and other strategies.

This sample extract from an observation in the rural kindergarten illustrates pupils’ ability to identify causes as they explained the reason why Okong, the main character, dug for worms in their backyard. Guided by the teacher’s questions, they were able to determine the main character’s motive and the main idea of the story:

Teacher: Duha na siya ka oras nagkabot sa yuta. Ngano sige man siya kabot sa likod sa ilang balay?

(He has been digging for two hours. Why was he always digging in their backyard?)

Pupils: Nagkuha og wati (Getting worms)

Alexa: Nagkabot siya kay nanguha og wati. (He is digging because he is collecting worms.)

Teacher: Ngano gusto man niya manguha og wati? (Why did he want to collect worms?)

Vera: Nagkabot siya og wati kay kuan mamaligya siya og isda. Palit dayon siya og sanina, bola ug sapatos ug manika ug bangko.

(He dug for worms because he will sell fish; then, he will buy clothes, ball and shoes and doll and chair.)

Teacher: So? Ngano gusto gani niya makakwarta? (Why did he want to earn money?)

Alexa: Kay magpalit og bangkong tumba-tumba, sapatos ug sanina ug bola (To buy rocking chair, shoes, and ball)

Teacher: Ngano gusto man niya palitan ang iya pamilya? Why did he want to buy for his family?

Tina: Palangga niya. (He loves them.)

From the same observation, pupils also manifested their ability to identify the effect of the characters' actions. Without the effects being explicitly stated in the story, pupils were able to determine the consequence of working hard, in this case, digging for worms in the backyard. By breaking down the information in the picture into simpler parts and detecting "effect" through visual cues like Okong wiping the sweat on his forehead, pupils identified correctly that Okong perspired a lot as a result of digging for worms to catch fish that he planned to sell to earn money:

Teacher: Unsa may una nahitabo? Pag-adto niya sa likod sa ilang balay, nag-unsa man siya dayon?

(What happened first? When he went to the back of their house, what did he do?)

Pupils: Nagkabot (Dug)

Teacher: Okay, nagkabot siya og unsa? (Okay, he was digging for what?)

Pupils: Wati (Earthworms)

Teacher: Okay! Giunsa man dayon siya? Okay! Then what happened to him?)

Pupils: Singot (Perspiration)

Teacher: Giunsa siya? (What happened to him?)

Pupils: Gisingot (Perspired)

In terms of ability to make inferences, pupils demonstrated the capacity to interpret and draw meaning from visual and contextual cues. Even without prior information, they were able to identify events depicted in illustrations and accurately infer the characters' emotions by carefully analyzing visual details. This competence is also evident during group games such as "Tahas Ko, Tagnaon Mo" (Your Chore, I'll Guess), where one group silently acted out household tasks while others successfully inferred the actions being performed through observation of non-verbal cues:

Teacher: Okay, duol dri sa ako ang Group 1. Dili mo magsaba unsa inyo gitrabaho ha? Kamo ang motagna. Okay, ready, go! O nag-unsa man ni sila?

(Okay, Group 1, come here. Don't tell [your classmates] what you are doing. You [the other groups] will be the one to guess. Okay, ready, go! What are they doing?)

Group 2: Naglaba (Doing the laundry)

Teacher: Tama, mali? (Correct, wrong?)

Group 1: Tama! (Correct!)

Teacher: Okay! Very good! Palakpak! Ang Group 2 naa nay 1 point. O, sunod na pud na trabaho.

(Okay! Very good! Clap your hands! Group 2 already has one point. Next chore....)

(Group 1 performed their task.)

Group 2: Naghugas og plato! (Washing the dishes!)

Teacher: Okay! Very good! Correct ang Group 2. Palakpakan!

(Okay! Very good! Group 2 is correct. Let's clap our hands for them!)

(The game continued.)

Lastly, in terms of ability to associate new concepts with prior knowledge, pupils are able to find connection between their lessons and their real-life experiences. This is a thinking skill that goes beyond simple application of newly learned knowledge as the process is often unprompted and automatic, indicating that pupils deconstruct information into its component parts, identify underlying relationships, and integrate these insights into their existing schema to clarify, concretize, and exemplify meaning. In many instances, pupils demonstrated this associative ability by giving responses that extended beyond the expected scope of discussion, giving observations which were at times funny and unexpected, yet meaningful, realistic, and highly perceptive.

In this extract from an observation wherein the teacher was discussing the content focus, which is the family's needs and wants, the pupil was seemingly just giving an idle comment. A closer examination of his remark, however, revealed an insightful observation that entailed use of thinking skills which were way beyond the concepts that the teacher was teaching.

Teacher: Nanginahanglan ba ta og balay, wala? (Do we need a house or not?)

Pupils: Nanginahanglan (We need [a house].)

Kim: Naay uban na walay...walay... balay. (There are others who do not have...do not have...a house.)

The second theme, "strengthened evaluative competence in assessing information," refers to the influence of the module in promoting pupils' ability to weigh information and make judgment based on internal or external criteria. This includes judging an idea, object, or action and making a choice between opposing ideas or sides.

This evaluative skill is largely manifested when pupils express their opinions in answering a big question that revolves around the central theme of the read-aloud story. For example, the central theme in Story 2 is "love costs nothing." In line with this, pupils are asked to answer the big question "for you, does love cost a lot or nothing at all?" which enabled them to assess information, weigh their options, and finally take a stand and give their reasons for their choice.

Additionally, this skill is displayed in simplified debates that tackle situations or issues that are parallel to the focus of the read-alouds. This is considered more difficult than merely answering a big question as it demands application of concepts learned from the read-aloud story and incorporating these concepts with prior knowledge to provide specific and practical reasons for their stand. In this excerpt of a simplified debate in the urban kindergarten, the pupils were given the opportunity to take sides in the central conflict in Story 3 which was whether children should be assigned household chores or not:

Teacher: Ang tawag ana niya sa atong buhaton karon, “debate.” “Debate”—magtubag-tubag mo na mga grupo. Ang inyong kuanon kung uyon ba mo na tagaan og trabaho ang mga bata nga parehas sa inyo. Di ba mga bata pa mo?

(We call our activity now “debate.” “Debate”—the groups will argue with each other. What you will [answer] is if you agree that children like you should be given chores. You are still young, right?)

Pupils: Oo! (Yes!)

Teacher: Ang Group 1, sa grupo nila Minnie, dili mosugot na tagaan og trabaho. Sa Group 2, uyon na tagaan og trabaho ang parehas ninyo nga mga bata. So, kada grupo naay motingog. Nakasabot, wala?

(Group 1, in Minnie’s group, does not agree that [children] are given chores. In Group 2, [they] agree that children like you are given chores. So, in every group, someone will answer. Why should or why shouldn’t children like you be given chores. Understood or not?)

Pupils: Nakasabot! (Understood!)

Teacher: Okay, maminaw ta sa Group 1. Minnie, nganong dili man tagaan og trabaho ang mga bata, Minnie? (Okay, let us listen to Group 1. Minnie, why should children not be given chores, Minnie?)

Minnie: Mga bata pa (Still young)

Teacher: Kay mga bata pa. O, Milo, mag-unsura man diay ang mga bata?

(Because [they] are still young. You, Milo, what are children supposed to do?)

Milo: Matulog (Sleep)

Teacher: Riza, mag-unsura man diay ang mga bata? (Riza, what do children ought to do?)

Riza: Magpuyo (Behave)

Teacher: Mag unsa pa? (What else?)

Riza: Mag-ingkod (Sit down)

Teacher: Unya sa Group 2, nganong dapat man tagaan og trabaho ang mga bata? Enid?

(And then in Group 2, why should children be given chores? Enid?)

Enid: Kay para buotanay perminte kay para moadto og langit

(So that they will always be good and they will go to heaven)

Teacher: Unya? (And then?)

Enid: Kay para ma-angel siya (So that he/she will become an angel)

The last theme, “improved creative competence in producing prompt-responsive outputs,” denotes the influence of the module in terms of equipping pupils with skills in putting together pieces of information that they have learned to produce something that creatively conveys their idea about a given topic. This chiefly consists of making artworks to respond to a prompt given by the teacher, which is usually a question, a problem, or a situation that revolves around the main idea and the content focus of the read-aloud stories.

Although pupils possess limited drawing skills that sometimes affect the clarity of their visual expression, most of them were able to produce artworks that responded correctly to the given prompts. They also provided

accurate and well-articulated explanations of their drawings when asked by their teachers during the facilitation of art activities. Moreover, pupils demonstrated uniqueness and creativity as evidenced by their selection of varied materials and media, as well as their use of diverse objects, figures, and imagery to convey their ideas effectively. The meaningfulness, accuracy, and creativity reflected in their outputs indicate the integration of both LOTS and HOTS, culminating in the highest cognitive process of “creating.”

The exploration and experimentation with different materials and media in their artworks, including coloring pens, paint, popsicle sticks, washi tape, and colored paper, made the art activities the most preferred by the pupils. They described the art activities as both fun and challenging, particularly appreciating the opportunity to work with materials that were not commonly available to them.

In this example, “Remy” created an artwork that depicted her role in the family. Like most of her classmates, she focused on the household chore assigned to her, drawing from her real-life experiences. As shown in the artwork, she gave emphasis to the broom by making it bigger than the other elements in her output, using colors that stood out, and utilizing art materials which were different from the ones used in other elements such as popsicle sticks and strings.

Figure 1 Sample Pupil’s Artwork



### **Rural-Urban Differences in the Influence of the Developed Mother Tongue-based Teacher Read-Aloud Module on Kindergarten Pupils’ HOTS**

Generally, there were no significant differences observed in the influence of the module on the HOTS of kindergarten pupils in rural and urban settings. While variations were evident in the pupils’ responses and approaches to activities, all groups consistently demonstrated HOTS in terms of analyzing information, evaluating and judging ideas, and producing outputs aligned with the given prompts.

In terms of competence in analyzing information, pupils from both rural and urban kindergartens demonstrated the ability to identify cause-and-effect relationships, draw inferences, and connect new concepts with prior knowledge. For instance, as shown in the class observation excerpts below, pupils from both settings were able to infer the main character’s reason for no longer wanting to babysit his sister based on the illustrations presented by their teachers. Although they expressed their ideas in different ways, the underlying cognitive process they employed—analysis—was consistent across groups.

In this extract from an observation of the rural kindergarten, pupils inferred from the picture that Okong refused to watch Ola because she made fun of him by tying his hair and putting lipstick on him:

Teacher: Ngano nagreklamo man si Okong? (Why did Okong complain?)

Jessa: Kay gigara-garaan siya (Because he was made fun of)

Teacher: Giunsa man diay siya paggara-gara? (How was he made fun of?)

Pupils: Gi-lipstick-an, gibugkutan ang buhok (Put lipstick on, his hair was tied)

On the other hand, in this extract from an observation conducted in the urban kindergarten, pupils made an inference from the same picture that Ola teased Okong, thus his refusal to babysit her again:

Teacher: Ngano kahang dili siya gusto magbantay kang Ola? (Why do you think he did not like to babysit Ola anymore?)

Pupils: Kay iya mang giaway (Because she teased him)

As regards competence in evaluating information, pupils from both rural and urban kindergartens demonstrated the ability to make judgments about ideas, actions, and objects, as well as to make choices and take positions. Observations of pupil-teacher interactions during the read-aloud activities revealed that pupils in both settings could articulate their opinions and engage in simple debates. These behaviors reflect their capacity to weigh and assess information and to select and justify a stance when presented with differing or opposing viewpoints.

As an illustrative sample, this extract from an observation conducted during an interactive game wherein pupils judged objects as “wants” or “needs” shows that urban kindergarten pupils were able to utilize what they learned from the discussion as criteria in judging the information in the pictures whether important enough to be considered as needs or not important enough, hence, categorized as wants:

Teacher: Okay, unsay naa sa drawing? (Okay, what’s in the drawing?)

Pupils: Dulaan! (Toys!)

Teacher: Unsa man ang dulaan, panginahanglan o gusto? Kinsay mo-answer?

(What is a toy, need or want? Who wants to answer?)

Allison: Ako! (I!)

Teacher: Si Allison, asa man ang answer diha? (Allison, which is the answer there?)

Allison: (Clicked “gusto”) (Clicked “wants”)

Game: Tama! Palakpakan! (Correct! Clap your hands!)

Teacher: Okay, sakto iya answer, dili? (Okay, is her answer correct or not?)

Pupils: Sakto! (Correct!)

Similarly, the pupils from the rural kindergarten were also able to exhibit their competence in evaluating information and making judgment. As seen in this extract, they answered correctly the same interactive game on needs and wants:

Teacher: (Shows a picture of fruits) O, diri paminaw. Panginahanglan o gusto? Aha man diha?

(Here, listen. Needs or wants? Which is it?)

Susie: Panginahanglan! (Needs!)

Teacher: Tuploka, Susie. Kana, click. (Click, Susie. That’s right, click.)

Teacher: Palakpakan! Okay! Very good! (Clap your hands! Okay! Very good!)

With regards to competence in creating outputs that respond to given prompts, pupils in both rural and urban kindergartens were able to produce artworks that answered the situation or question that served as the topic or subject of their outputs. These artworks conveyed the concepts that they have learned from the read-aloud activities and their own personal experiences. Moreover, pupils from both kindergartens experimented on use of varied art materials to express their creativity and originality.

As illustrated in the sample outputs for Story 2 in Figure 1, both the first artwork (produced by a pupil from the urban kindergarten) and the second artwork (created by a pupil from the rural kindergarten) appropriately respond to the prompt on ways of caring for one’s family. In both pieces, the pupils portrayed togetherness as their way of expressing care for family members. Additionally, each artwork reflects the use of varied art materials, including colored pens and paint.

Figure 2 Comparison of Pupils’ Artworks



## DISCUSSION

Results of the case study indicate that the developed mother tongue-based teacher read-aloud module influenced the HOTS among kindergarten pupils by enhancing their analytical competence in processing information as manifested in their ability to identify causes and effects, draw inferences, and associate new concepts with previously learned concepts. These results align with the studies of Batini et al. (2020), Ligmon (2024), and Trujillo (2020) which found that the use of mother tongue in instruction enhances learners’ comprehension, improves reasoning skills, and fosters meaningful engagement with instructional materials, enabling them to better understand concepts and even draw conclusions.

Additionally, these results support the findings of Sofyan et al. (2021) who reported that read-aloud strategies support the development of learners’ abilities to understand, analyze, and interpret texts. More importantly, they also reinforce the findings of Muhibbuddin et al. (2023), Nurmaharaeni et al. (2022), and Rahmadani et al. (2023) that HOTS-based instruction enhances students’ ability to analyze texts, identify main ideas, respond to inference-based and predictive questions, and provide logical reasoning linked to the texts.

The influence of the module is also evident in the pupils' enhanced evaluative competence in assessing information. This is reflected in their ability to make judgments about ideas, actions, or objects, as well as to make choices and take a stand. These findings are consistent with those of Nurmaharaeni et al. (2022), which indicate that exposure to HOTS-oriented activities promotes deeper engagement with reading materials and stimulates analytical and evaluative thinking. Similarly, they align with the findings of Orias and Castro (2025), which demonstrate that explicit instruction in HOTS strengthens learners' abilities to analyze problems, evaluate evidence, construct arguments, and generate innovative solutions.

Another influence of the module on kindergarten pupils' HOTS is the improved creative competence in producing prompt-responsive outputs. This ability is demonstrated through the artworks pupils produced in response to questions or scenarios provided by their teachers. The use of art activities to foster HOTS is supported by Samad et al. (2021), who reported that creative tasks, including coloring, decorating, and collage-making, enable children to express their ideas, collaborate with their classmates, and refine their work based on feedback, providing opportunities for both individual creativity and collaborative problem-solving.

As for rural-urban differences in the influence of the module among kindergarten pupils' HOTS, results revealed that pupils from both settings similarly manifested enhanced analytical competence in processing information, strengthened evaluative competence in assessing information, and improved creative competence in producing prompt-responsive outputs. These results differ from most research that examined rural-urban differences as they mostly found that students from urban schools perform better than students from the rural schools. For example, Kumari (2020) reported a significant difference in intelligence quotient (IQ) scores among preschoolers, with urban children outperforming their rural peers. Similarly, Sumi et al. (2021) observed disparities in academic performance, noting that students from urban areas achieved higher results in public examinations compared to their counterparts from rural areas.

Many studies generally link disparities in academic performance between rural and urban areas to the quality of educational programs, including class size and student-teacher ratios (Sumi et al., 2021), teachers' qualifications and benefits (Sanfo, 2023), enrollment rates, student quality, and the level of national and local funding (Apaza et al., 2024; Li & Wu, 2023). Other studies attribute rural-urban differences to factors such as home environment (Kumari, 2020) and socio-economic status (Beatriz-Afonso & Cruz-Jesus, 2024).

Based on these factors underlying rural-urban disparities, several observations can be made. For one, the module effectively addressed the needs and interests of pupils in both rural and urban kindergartens, allowing all participants to benefit equally. For another, the disparities identified in previous studies were not evident in the context of this research, suggesting that the pupils were not constrained by such factors. This lack of disparity may be attributed to the strict implementation of DepEd policies regarding class size, student-teacher ratios, and teacher hiring standards. Additionally, the active involvement of community stakeholders may have also contributed to the equitable allocation of funding for both rural and urban kindergartens.

## CONCLUSIONS AND RECOMMENDATIONS

In light of the results of the study, it can be concluded that the developed mother tongue-based teacher read-aloud module is pedagogically sound and effective in promoting HOTS among kindergarten pupils. Use of read-aloud stories that are culturally relevant and relatable to the pupils, systematic procedures in the conduct of read-alouds, and purposeful development of HOTS enable pupils to demonstrate analytical, evaluative, and creative competence. Moreover, the module is inclusive and multicultural as evidenced by its similarly positive influence on the HOTS of pupils from both rural and urban kindergartens. With these, use of the module in similar contexts is recommended based on the positive results.

To further assess the influence of the module on pupils' HOTS, studies involving a larger and more diverse sample to enhance the generalizability of the findings may be conducted. Quantitative data may also be collected to allow for statistical analysis of learning outcomes and obtain stronger empirical evidence of the effect of the module.

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