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Mathematics Teachers' Competencies in Reading Instruction

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Abstract

This study was conducted to determine mathematics teachers' competencies in reading instruction. Specifically, this study sought to describe mathematics teachers' knowledge of reading and their extent of implementation of reading strategies. Generally, the teacher-respondents were found to be moderately knowledgeable of the nature of reading and content area reading instruction. The common issues in content area reading instruction include teachers' lack of knowledge and skills, insufficient number of content area reading instruction training activities available for teachers, and resistance to implement and integrate reading instruction and strategies. Thus, this study suggests that the findings be used by school administrators, policymakers, and Department of Education officials as baseline in providing teachers with support in terms of undergoing professional development undertakings related to reading instruction.

Keywords: *Mathematics Teachers, Reading Instruction, Nature of Reading, Nature of Reading Instruction, Reading Strategies*

INTRODUCTION

Without a doubt, learning how to read a range of symbols is a necessary skill for mathematics. Like with letters and punctuation, children need to be exposed to mathematical symbols and numbers over time and get explicit teaching to help them make the conceptual connections between the symbols and numbers.

Hence, apart from teaching computation and procedural fluency, math teachers are also responsible for helping students understand word problems presented in a variety of contexts, utilizing a range of sophisticated terminology, and needing certain underlying knowledge. To choose the appropriate operations to apply, students must be able to assess unique circumstances. Simply put, before using computational skills to solve a math problem, Massey and Riley [1] recommend that students first gain a deeper understanding of comprehension strategies, such as questioning, visualizing, predicting, utilizing text structure to determine meaning, and connecting domain-specific vocabulary to previously learned concepts.

Unfortunately, many high school readers are continuously struggling with mathematical texts because the skills and strategies necessary to understand these texts are not being modelled, and taught uniformly in every subject area. Studies reveal almost no classroom time (less than 3%) is spent on reading comprehension instruction in content-area classes. Even with the increased need for literacy instruction in content areas like mathematics, teachers often face many stumbling blocks in implementing the needed instruction. According to Ness [2], teachers may feel more responsible to teach content than reading or may feel unprepared to offer specific reading instruction due to a lack of knowledge.

In the Philippine setting, the education system is facing a dilemma due to a wide spread and rapid deterioration of language skills particularly in reading. For the last decade, the quality of Philippine education was put into a big question due to poor performance of students in mathematics and science tests both local and abroad. Imam [3] asserted that the efforts of the government by implementing the K to 12 curriculum did not do much to change the status quo. Dr. Yolanda Quijano, former head of DepEd's Bureau of Elementary Education, attributed reading problems as the main culprit for the poor performance of some students in the National Achievement Tests. She emphasized that if students cannot read, they will face difficulty in all academic areas, including math, social studies, and science.

Research, according to Paris and Hamilton [4]. has shown that reading comprehension can be increased significantly when it is taught explicitly. Further, Pressley [5] posited that because meaning does not exist in text

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but must be constructed from the text by the reader, instruction of how to use reading strategies is necessary to improve comprehension.

Specifically, Fang and Coatoam [6] suggest that teachers implement reading strategies to increase students' comprehension of texts. These include providing effective vocabulary instruction in their subject areas; giving instruction in reading comprehension strategies that can help students make sense of content-area texts; designing reading assignments that are likely to motivate students who lack engagement in school activities; and teaching students to read in the ways that are distinct to their own content areas.

It is in this context that this study was conducted to mathematics teachers' competencies in reading instruction. Specifically, this study sought to: (1) describe mathematics teachers' knowledge of reading and (2) determine their extent of implementation of reading strategies.

The findings of this study could enable mathematics teachers to assess and reflect on their professional strengths and developmental needs and concerns toward reading instruction. It is hoped that through this study, maximum support could be extended to mathematics teachers to help them enhance their competencies in reading instruction.

METHODOLOGY SECTION

This section discusses the research design that was undertaken in answering the problems. It also presents the respondents involved in the study, the different instruments used in gathering data, and the statistical tools to analyze and interpret the gathered data.

Research Design

This study employed the descriptive research design as it sought to describe mathematics teachers' knowledge of reading and their extent of implementation of reading strategies.

Locale of the Study

The study was conducted in the Philippines, particularly in the three schools divisions in the Province of Ilocos Norte, namely: the Schools Division of Ilocos Norte, City Schools Division of Laoag, and City Schools Division of Batac.

Population and Sampling Procedure

The target population of this study were the junior high school mathematics teachers from the three schools divisions in Ilocos Norte. To have a number representative of all junior high school content area teachers in the three schools divisions, the sample size was determined using Slovin's formula.

Using a 5% margin of error, the computed sample size (n) was approximately equal to 121.25 which was rounded to 121. Hence, 121 mathematics teachers were considered as actual sample size of this study.

Moreover, to ensure that all mathematics teachers from the three schools divisions were given fair chances of becoming part of this study, proportionate stratified random sampling method was used.

Table 1 summarizes the total number of junior high school teachers from the three schools divisions involved in the study.

Table 1. Number of junior high school mathematics teachers from the three schools divisions

Schools Division	Population	Sample
Ilocos Norte	121	27
Laoag City	38	11
City of Batac	121	85
Total	174	123

Instrumentation and Data Collection Procedure

As regards the data collection, this study used two instruments, namely: survey-questionnaire and unstructured interview guide.

The survey-questionnaire, Assessment Tool on Mathematics Teachers' Competencies, consisted of two parts. Attached to the survey-questionnaire was a letter indicating provision for the teacher respondents' full consent in their participation in the study and that all disclosed information would be held with utmost confidentiality. Since the questionnaire was developed by the researcher based on her bibliographical research, a panel of research experts validated it.

Part I of the survey-questionnaire, which was in a rating scale, included the Survey on Mathematics Teacher's Level of Knowledge of the Nature of Reading and s Reading Instruction. This survey was used to determine the teacher respondents' level of knowledge of the nature of reading and reading instruction. In scoring the responses to the items in this survey, the following scale was used:

Table 2. Scale interpretation on teachers' level of knowledge of the nature of reading and reading instruction along with the descriptive interpretations

Scale Interpretation	Descriptive Interpretation
5	Very Highly Knowledgeable (VHK)
4	Highly Knowledgeable (HK)
3	Moderately Knowledgeable (HK)
2	Slightly Knowledgeable (MK)
1	Not Knowledgeable (NK)

Meanwhile, Part II was also in a rating scale which contained the Survey on Mathematics Teacher's Extent of Implementation of Reading Strategies. This part identified the discipline-specific reading strategies used by the teacher respondents in the mathematics classroom. Moreover, said survey asked them to indicate how often they implement each of these reading strategies. In scoring the responses to the items in this survey, the following scale was used:

Table 3. Scale interpretation on teachers' extent of implementation of reading strategies along with the descriptive interpretations

Scale Interpretation	Descriptive Interpretation
5	Always (A)
4	Often (O)
3	Sometimes (S)
2	Rarely (R)
1	Never (N)

The unstructured interview guide, on the other hand, sought to validate the results obtained from the interview.

Statistical Treatment

Mean was used to describe their responses to the survey-questionnaire along their level of knowledge of the nature of reading and reading instruction and their extent of implementation of the reading strategies.

The following statistical ranges with their corresponding descriptive interpretations were used to describe the teacher respondents' level of knowledge of the nature of reading and reading instruction:

Table 4. Range interval teachers' level of knowledge of the nature of reading and reading instruction along with the descriptive interpretations

Range Interval	Descriptive Interpretation
4.51 – 5.00	Very Highly Knowledgeable (VHK)
3.51 – 4.50	Highly Knowledgeable (HK)
2.51 – 3.50	Moderately Knowledgeable (HK)
1.51 – 2.50	Slightly Knowledgeable (MK)
1.00 – 1.50	Not Knowledgeable (NK)

In terms of the teacher respondents' extent of implementation of the reading strategies in the mathematics classroom, the following statistical ranges with their corresponding descriptive interpretations were used:

Table 5. Range interval on teachers' extent of implementation of reading strategies along with the descriptive interpretations

Range Interval	Descriptive Interpretation
4.51 – 5.00	Always (A)
3.51 – 4.50	Often (O)
2.51 – 3.50	Sometimes (S)
1.51 – 2.50	Rarely (R)
1.00 – 1.50	Never (N)

RESULTS AND DISCUSSION

This section provides obtained findings gathered on mathematics teachers' knowledge of reading and extent of implementation of reading strategies in their classroom.

Mathematics Teachers' Knowledge of the Nature of Reading and Reading Instruction

This portion presents the teacher-respondents' knowledge of the nature of reading and reading instruction.

It can be gleaned from the table that the teacher-respondents are *moderately knowledgeable* ($\bar{x} = 3.13$) of the nature of reading and reading instruction.

Table 6. Teachers' knowledge of the nature of reading and reading instruction

Nature of Reading	**Mean/Descriptive Interpretation**
I know that…	
1. reading consists of two related processes, namely word recognition (process of perceiving how written symbols correspond to one's spoken language) and comprehension (process of making sense of words, sentences and connected text);	3.41/MK
2. in reading, background knowledge, vocabulary, grammatical knowledge, experience with text and other strategies are used to understand written text;	3.32/MK
3. there are three processes involved in reading, namely, bottom-up processing (focuses on the printed form of a text); top-down processing (enhances the role of background knowledge in addition to what appeared on the printed page); and metacognitive view (emphasizes the involvement of the reader's thinking about what he is doing while reading); and	3.12/MK
4. in the reading process, three interactive elements are involved, which influence comprehension: what the reader brings to the situation; the learning climate; and the characteristics of the written text or text features.	3.19/MK
Nature of Reading Instruction	
I know that…	
1. content area reading refers to the reading that someone needs to complete and understand in a particular subject area;	3.10/MK
2. students both have an ability to read and read to learn by integrating reading and content instruction;	3.12/MK
3. teaching reading through content is not teaching phonics (sound-letter relationship) or other basic word attack skills, instead it is modelling and teaching specific-reading- thinking skills that the teacher identifies as necessary for students to understand the content;	3.05/MK
4. content area reading means helping students make connections between what students already know (prior knowledge) and the new information (academic vocabulary) being presented;	3.10/MK
5. content area teachers teach their students how to use reading as a tool for thinking and learning in their specific subject;	3.03/MK

6. content area teachers are teachers who teach their students how to read their specific content and include vocabulary development, comprehension strategies, fluency practice, and writing strategies;	3.07/MK
7. each content area has its own language or vocabulary and for students to comprehend content area reading materials, they must be able to determine the meanings of general (words that students know and use as part of everyday activities); specialized (words that have specific meanings for content area subjects); and technical (words that relate specifically to each content area or topic) vocabulary;	3.05/MK
8. reading fluency, which is the ability to read words in connected texts with accuracy and appropriate rate, is an important skill required in reading and rapidly comprehending more and more complex materials;	3.07/MK
9. that students construct meaning before, during, and after reading by using a set of comprehension skills to integrate information from a text with their background knowledge; and	3.05/MK
10. reading and writing are integrally related.	3.14/MK
Overall Mean	**3.13/MK**

In terms of their knowledge of the nature of reading, the highest rating was obtained by the item, reading consists of two related processes, namely word recognition (process of perceiving how written symbols correspond to one's spoken language) and comprehension (process of making sense of words, sentences and connected text), with a mean of 3.41 (*moderately knowledgeable*), while the lowest rating was acquired by the item, 3. there are three processes involved in reading, namely, bottom-up processing (focuses on the printed form of a text); top-down processing (enhances the role of background knowledge in addition to what appeared on the printed page); and metacognitive view (emphasizes the involvement of the reader's thinking about what he is doing while reading), with a mean of 3.12 (*moderately knowledgeable*).

As regards their knowledge of the nature of reading instruction, the highest rating was earned by the item, reading and writing are integrally related, with a mean of 3.14 (*moderately knowledgeable*). Meanwhile, the lowest rating was gained by the item, content area teachers teach their students how to use reading as a tool for thinking and learning in their specific subject, with a mean of 3.03 (*moderately knowledgeable*).

The findings corroborate with the claims of Kenney et al. [7] that unless Mathematics teachers are generalists and have been trained in reading instruction, they do not see literacy as part of their skill

set. She also adds that Mathematics teachers do not appreciate that reading a Mathematics text or problem is really very different from other types of reading, requiring specific strategies unique to Mathematics.

The results likewise agree with the findings of Washburn [8] that content area teachers, like mathematics teachers, demonstrate moderate knowledge of the critical components for content area reading instruction, namely vocabulary development, comprehension strategies, fluency practice, and reading strategies.

These findings are supported by the responses made by the teacher-respondents during the unstructured interviews. When asked about their knowledge about the nature of reading and content area reading instruction, some of the teacher-respondents gave the following remarks:

> *"I am interested more [sic] being expert in my own content area. I am focus [sic] more on teaching my content rather than teaching my students how to be reading." – Teacher-respondent 3*

> *"I recognize the importance of considering the reading styles and needs of students. Unfortunately, I do not have vast information how to do it." – Teacher-respondent 11*

> *"Basta ammo ta ubing ti ag-solve ken ag-compute, mayaten. (As long as the student knows how to solve and compute, that is enough." – Teacher-respondent 21*

These answers made by the teacher-respondents agree with the findings of Blintz [9] that content area teachers fail to implement reading strategies in the delivery of their lessons because they did not receive formal knowledge of reading in their teacher education training. Moreover, his study reveals that teachers did not have personal experience with the reading instruction in the past, and that they feel overwhelmed because they are expected to teach both content and reading.

Mathematics teachers may have the knowledge of reading, yet fail to develop and apply their own knowledge and skills in a manner that would enable them to provide effective instruction to their students. Herber [10] used the term assumptive teaching to describe what teachers do when they unconsciously take for granted their students know how to read and learn and have the motivation and interest to do so. Instead, these teachers often expect their students to be fluent in processing reading material, making inferences, and reading critically, and assume that their students have an immediate understanding of reading materials given to them.

Aside from their limited knowledge and skills in reading instruction, content area teachers, like the mathematics teachers have developed reluctance to incorporate reading instruction into their classrooms. According to Moje [11], teachers rarely enact content literacy strategies in their classrooms. Mallette et al. [12] also indicated that historically many teachers in the middle grades have believed that the responsibility for instruction in reading and other aspects of literacy is the responsibility of the language arts or English teachers.

Jacobs [13] underscored that the source of teachers' resistance toward reading instruction may also be explained by teachers' acceptance of integrating reading and writing in their instruction as to teach an additional content or they may see these strategies as time consuming and not particularly efficient.

Some teacher-respondents exhibit the reluctance to integrate reading instruction into mathematics classrooms as manifested in the following statements:

> *"My task is to deliver and teach my content. What is important is that my students develop mathematical skills and competencies." – Teacher-respondent 45*

> *"Teaching our students [sic] to read is really the responsibility of the Filipino and English teachers." – Teacher-respondent 15*

Pressley [5] also concluded that there was insufficient instruction in comprehension strategies in schools and suggested the importance of teaching students to use reading strategies actively, in an integrative manner, and flexibly.

The findings imply that there is a strong need to enhance and increase mathematics teachers' knowledge of the critical components of reading instruction, specifically on word recognition, vocabulary building, building prior knowledge, fluency, making meaning, and comprehension. As cited by Richardson et al. [14], teachers need more information and training to teach their students to be capable of processing reading materials, making inferences, and reading critically.

Mathematics Teachers' Implementation of Reading Strategies in the Classroom

This portion presents the teacher-respondents' extent of implementation of reading strategies in their classrooms. It specifically reveals how frequent these reading strategies are used in their classrooms.

Table 6. Teachers' extent of implementation of reading strategies in the classroom

Reading Strategies	Mean/Descriptive Interpretation
1. build prior knowledge: allowing students to make connections from their experiences to the text they are currently reading, so they can have a foundation upon which they can place new facts, ideas, and concepts;	3.53/O
2. build specialized vocabulary: integrating specialized vocabulary (words specific to a particular content area and represent important	2.76/S

concepts or ideas) instruction into content-area lessons; comprehension (process of making sense of words, sentences and connected text);	
3. deconstruct complex sentences: focusing on syntax or sentence structure (the arrangement of words, phrases, and clauses that make up a sentence) to help students understand texts' meanings and read them more closely;	2.64/S
4. predict main and subordinate ideas: making students use information from a text, including titles, headings, pictures, and diagrams, to anticipate what they are about to read (or what comes next);	2.71/S
5. map graphic representations (against explanations in the text): helping students to categorize information and to show the relationships among important concepts through visual illustrations;	3.54/O
6. pose discipline-relevant questions: helping students clarify meaning, enhance their understanding, make connections, monitor their comprehension by asking different levels of questions related to the content area;	3.51/O
7. compare claims and propositions across texts: helping students distinguish claims and propositions from alternate or opposing claims and create an organization that establishes clear relationships among claims; and	2.42/R
8. use norms for reasoning within the discipline to evaluate claims: helping students weigh and support claims using valid reasoning and relevant and sufficient evidence from the text.	2.47/R
Overall Mean	**2.95/S**

It can be gleaned from Table 6 that among the eight reading strategies used in the content areas, three are *often* employed by the teacher-respondents, namely: *mapping graphic representations* ($\bar{x}$ =3.54), *building prior knowledge* ($\bar{x}$ =3.53), and *posing discipline-relevant questions* ($\bar{x}$ =3.51).

The results agree with Bigenho's [15] study, in which teachers indicated that questioning, using graphic organizers, activating background knowledge were the three most often used methods of reading instruction. The findings likewise corroborate that of Barry [16] that graphic organizers, brainstorming, and considering students' prior knowledge were the most often used strategies by the teachers who were involved in his study.

Meanwhile, the two reading strategies that have been identified by the teacher-respondents as *rarely used* include *using norms for reasoning within the discipline to evaluate claims* ($\bar{x}$ = 2.47), and *comparing claims and propositions across texts* ($\bar{x}$ = 2.42). According to the teacher-respondents:

> *"Because time don't [sic] allow us to conduct oral presentations like debate, most students rarely get the chance to explain intensively how they came up with the solution to a word problem." – Teacher-respondent 18*

> *"These two strategies are seldom done in the classroom. It's difficult for most of my students to construct simple sentences, ana laengen ti agsao wennu agsurat (how much more to expressing themselves in writing or orally)." – Teacher-respondent 2*

These concerns presented by the teacher-respondents confirm Paris and Hamilton's [4] findings that teachers often neglect to develop the reasoning and evaluating skills of students. They stated that many teachers conduct their classes mainly through the lecture method, for it is an efficient way for a teacher to control the content, organization, and pace of a presentation, particularly in a large group. Therefore, there is a need for teachers to learn how to use these reading strategies to enhance the reading and reasoning strategies of their students. As asserted by Snow [17], instruction of how to use reading and reasoning strategies is necessary to improve comprehension because meaning does not exist in text but must be constructed from the text by the reader.

With regard to graphic representations, most of the teacher-respondents identified Venn diagrams, graphs, concept maps, diagrams, and charts as the most commonly used graphic organizers in their classes. The following are the insights shared by the some of the teacher-respondents about the use of graphic organizers:

> *"I use the Venn diagram to categorize real numbers. Charts work well in geometry." – Teacher-respondent 6*
>
> *"I use charts to introduce new words, and outlines to show the steps of a problem." – Teacher-respondent 21*
>
> *"In math we use charts, tables, graphs, Venn diagrams and many forms of time lines to organize material or solve problems." – Teacher-respondent 35*
>
> *"Graphic organizers are very useful to [sic] discussing new mathematical terms and show [sic] the steps of a problem." – Teacher-respondent 28*
>
> *"Graphic organizers aids [sic] students who learn better through visual representations." – Teacher-respondent 2*

These remarks made by the teacher-respondents corroborate the claim of Chang et al. [18] that learners, particularly the struggling ones, can be actively involved in reading and derive meaning from written texts using graphic organizers.

Meanwhile, the teacher-respondents identified the K-W-L (K for what I already Know; L for what I Want to learn; and L for what I learned) chart as the most commonly used way of building prior knowledge. The following are the remarks shared by the some of the teacher-respondents about the use of the K-W-L chart:

> *"The K-W-L chart is an effective tool to determine what the students know about a topic." – Math-teacher-respondent 5*
>
> *"I use the K-W-L chart to get the interest and attention of the students." – Math-teacher-respondent 19*

These statements made by the teacher-respondents support the claim of Braten [19] that prior knowledge is the most important element of all in comprehending a text to build new information on knowledge one already has. Activating prior knowledge is important in students understanding, because it allows them and helps make connections to the new information. By using what students already know, it helps the teacher assist students with the learning process because it gives him or her an idea of what students know and what they still need to learn. It is simply to use background knowledge to make understanding of what the text means.

In terms of posing relevant questions, the teacher-respondents said that the questions they ask range from the simplest to the most complicated. However, they admitted that most of the time, lower-level questions are asked. Some of them said:

> *"Whenever I ask high level questions to my students, no one seems to respond." – Teacher-respondent 16*
>
> *"No matter how I rephrase or simplify my questions, there are students who do not respond. This often frustrates me as a teacher." – Teacher-respondent 44*

These responses shared by the teacher-respondents support the claim of Neal [20] that the questions asked in the classroom are guided by Bloom's taxonomy of learning. Although teachers are encouraged to ask questions that cultivate the higher order thinking skills of students, Neal [20] emphasized that that lower-order questions should also be asked.

Unfortunately, Saeed [21] stated that the observations of classroom-based instructors have repeatedly shown that lower-order questions are far more frequently used. According to Brualdi [22], perhaps teachers do not value higher-order questions and feel they are not effective, or perhaps a lack of formal training on how to formulate questions to stimulate learning is the root cause.

As regards *building specialized vocabulary* ($\bar{x} = 2.76$), which is *sometimes* employed by the teacher-respondents, they mentioned that whenever they introduce mathematical terms to students, they ask the students what they know about a certain word or they ask the students to associate a certain word with other words which they think share similarities. Then, these terms are explained by providing examples and translating them to the vernacular. Some of the teacher-respondents also encourage their students to refer to a dictionary when they encounter unfamiliar words. According to some teacher-respondents:

> *"Whenever my students are given something to read, I ask them to underline the words that they don't know or understand. Then, from their list, I would explain each word by simplifying it and/or giving examples." – Teacher-respondent 51*

> *"Often, I translate the words to Filipino or Ilocano. It's difficult for some students to understanding [sic] new words in math if the explanation is English [sic]. Adda pay dictionary ta cellphones dan (They already have dictionary applications in their cellphones)." – Teacher-respondent 12*

These statements given by the teacher-respondents imply that they have to build specialized dictionary among their students more often by employing more strategies. As cited by Braten [19], a teacher must be actively engaged in teaching and presenting new vocabulary, and helping the students to choose new words to focus. He further claimed that students will acquire a developed vocabulary when engaged in different activities.

Another reading strategy that is *sometimes* used by the teacher-respondents is *predicting main and subordinate ideas* ($\bar{x} = 2.71$). The teacher-respondents asserted that in doing this, they ask their students to skim the paragraph or text. As stated by some of the teacher-respondents:

> *"Before my students solve a word problem, I ask them to take a quick glance of the problem. Then, I instruct them to predict what the problem is all about." – Teacher-respondent 6*

> *"I ask my students to have a quick survey of the given problem or reading material. Then, I ask them to come up with their predictions with regard to the problem and possible solutions." – Teacher-respondent 24*

The teacher-respondents' insights confirm the findings of Mortensen-Buan [23] that many students do not pay enough attention to the paratextual elements of texts, as headlines, key words, and photos. Rather, they are often instructed to merely look quickly through the text in search for answers. Thus, it is suggested that teachers have to lead the students and model reading a text repeatedly, in order to ascertain that they all know how to get to work on a new text.

For *deconstructing complex sentences* ($\bar{x} = 2.64$), which is another reading strategy that is used *sometimes* by the teacher-respondents, they gave the following insights:

> *"I observed that when problems are presented in long and complex sentences, students are confused, and ti pay problema ket haanda interesado agbasa (worse, they do not have the interest to read). What I do is to simplify the sentences by focusing on the key words or main ideas of the text." – Teacher-respondent 25*

> *"Most of my students have issues on sentence structure. Some of them cannot even identify the subject and the verb in the sentence. Usually, I end up translating the problem in the mother tongue just to help them comprehend the text." – Teacher-respondent 2*

The issues of the teacher-respondents with regard to the deconstructing of complex sentences agree with Scott [24], who noted that many students cannot parse the types of complex sentences that are often encountered in academic texts. Unfortunately, Steffani [25] argued that many educators appear to lack the syntactic knowledge and instructional skills needed to support students' comprehension of difficult sentence structures.

Thus, mathematics teachers must also deal with these issues by using reading strategies to make students better understand complex sentences.

CONCLUSION

Mathematics teachers are not adequately equipped with knowledge of the nature of reading and reading instruction. Most of the discipline-specific reading strategies are sometimes used. In addition, there are problems that challenge them in the implementation and integration of the reading strategies in their classrooms.

In the light of the above-mentioned findings and conclusions, it is recommended that this study be used by other researchers as reference material so that they can be guided and be inspired to explore and study more on other content area teachers' competencies in reading instruction. In addition, it is suggested that this study be an eyeopener for school administrators, policymakers, and Department of Education officials to extend maximum support to teachers in undergoing professional development undertakings related to reading instruction.

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REFERENCES

Massey, D., & Riley, L. (2019). Reading math textbooks: An algebra teacher's patterns of thinking. Journal of Adolescent & Adult Literacy, 56(7), 577-586. Retrieved from http://www.jstor.org/stable/41827902

Ness, M. (2021). Reading comprehension strategies in secondary content-area classrooms. Phi Delta Kappan, 89(3), 229-231.

Imam, O. (2019). Effects of reading skills on students' performance in science and math in public and private secondary schools. Journal of Education and Learning, 10(2), 177-186.

Paris, S.G. & Hamilton, E.E. (2019). The development of children's reading comprehension. In SE Israel & GG Duffy (eds). Handbook of Research on Reading Comprehension. New York: Routledge.

Pressley, M. (2020). Comprehension instruction: What makes sense now, what might make sense soon. Reading Online, 5. Retrieved from http://www.readingonline.org/articles/art_index.asp?

Fang, Z., & Coatoam, S. (2021). Disciplinary literacy: What you want to know about it. Journal of Adolescent & Adult Literacy, 56(8), 627– 632.

Kenney, J.M., Hancewicz, E., Heuer, L.; Metsisto, D., & Tuttle, C.L. (2022). Literacy strategies for improving mathematics instruction. Association for Supervision and Curriculum Development. Retrieved from https://eric.ed.gov/?id=ED509057

Washburn, E.K. (2019). Teacher knowledge of basic language concepts and dyslexia. Annals of Dyslexia, 17, 165 -183.

Blintz, W. (2019). Exploring reading nightmares of middle and secondary school teachers. Journal of Adolescent & Adult Literacy, 41(1), 12-24. Braselton.

Herber, H. (2021). Research within reach: Secondary school reading. Newark: University Press.

Moje, E. B. (2022). Foregrounding the disciplines in secondary literacy teaching and learning: A call for change. Journal of Adolescent & Adult Literacy, 52, 96- 107.

Mallette, M. H., Henk, W. A., Waggoner, J. E., & DeLaney, C. J. (2023). What matters most? A survey of accomplished middle-level educators' beliefs and values about literacy. Action in Teacher Education, 27(2), 33-42.

Jacobs, V.A. (2022). Reading, writing, and understanding. Educational Leadership, 60(3), 58-61.

Richardson, J. S., Morgan, R. F., & Fleener, C. (2009). Reading to learn in the content areas (7th ed.). Belmont, CA: Wadsworth Cengage Learning.

Bigenho, F. (2023). Models of reading difficulties and methods of reading instruction among primary school teachers. Paper presented at the Annual Meeting of the College Reading Association, ERIC Document Reproduction Service No: ED410543.

Barry, A. L. (2019). Reading strategies teachers say they use. Journal of Adolescent & Adult Literacy, 46, 132-141.

Snow, C. (2021). Reading for understanding: Toward an R&D program in reading comprehension. Santa Monica: Rand Reading Study Group.

Chang, K. E., Sung, Y. T., & Chen, I. D. (2021). The effect of concept mapping to enhance text comprehension and summarization. Journal of Experimental Education, 71, 5-23.

Braten, I. (2022). Reading comprehension. Reading in the knowledge society - theory and practice. Oslo: Cappelen Academy.

Neal, M. (2019). Engaging students through effective questions. Educ Can 2012, 52(4).

Saeed, T. (2019). Development of students' critical thinking: the educators' ability to use questioning skills in the baccalaureate programmes in nursing in Pakistan. J Pak Med Assoc., 63(3), 200-203.

Brualdi, A. (2021). Classroom questions. Practical assessment, research & evaluation. Retrieved from http://PAREonline.net/getvn.asp?v=6&n=6 on October 31, 2018.

Mortensen-Buan, A.B. (2020). Reading strategies and methods. Work with vocabulary texts in the classroom. Oslo: University Press.

Scott, C. M. (2019). A case for the sentence in reading comprehension. Language, Speech, and Hearing Services in Schools, 40, 184–191.

Steffani, S. E. (2019). Identifying conjoined and embedded complex sentences: Making it simple. Contemporary Issues in Communication Sciences and Disorders, 34, 44–54.