INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
Online ISSN: 3028-032X | Print ISSN: 3028-0370
PUBLISHED BY: RISEJOURNALS.ORG
Volume 1, Issue no. 11 | 1

Reading Comprehension Skills in Relation to their Academic Performance

DOI 10.5281/zenodo.14014963

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Abstract:

Reading is one of the best ways of learning as it enhances knowledge acquisition at all levels of education. Reading also improves learners' spelling abilities and it enriches their vocabulary storage. It facilitates the development of literacy skills that everyone needs for effective communication in different contexts. This study sought to establish the reading comprehension level of Grade 5 learners. The variables considered in this study included sex, parents' highest educational attainment and nutritional status. The key areas in reading included in this study were noting details, making inferences, predicting outcome and making generalization. The study made use of Grade 5 learners at Banaybanay Elementary School and the reading selections used to gauge their reading comprehension level were culled from the Philippine Informal Reading Inventory (PHIL-IRI). The results of the study showed that the reading comprehension of the Grade 5 participants was at instructional level. They were good in making generalizations but was very poor in making inferences. When grouped according to their nutritional status, the reading comprehension level of the participants who were considered wasted was found to be at the frustration level. When grouped according to aforementioned variables, the findings showed that female group had a higher academic performance; also, the learners whose parents reached or graduated college showed to have a higher academic performance. Various recommendations according to identified key areas were given.

Keywords: Academic performance, Education, Reading Comprehension skills

Introduction:

Nature of the Problem

Reading is one of the best ways of learning as it enhances knowledge acquisition at all levels of education. Reading also improves learners' spelling abilities and it enriches their vocabulary storage. It facilitates the development of literacy skills that everyone needs for effective communication in different contexts (Hijazi, 2018).

According to Ombra (2016), reading comprehension is a holistic process of constructing meaning from written text through the interaction of the knowledge the reader brings to the text, i.e., word recognition ability, world knowledge, and knowledge of linguistic conventions; the reader's interpretation of the language that the writer used in constructing the text, and the situation in which the text is read.

In the Philippines, reading comprehension has been established as a tool in learning other fields like Science and Mathematics. In all other core academic subjects, mostly those who have higher reading comprehension level among learners mostly bring them to on top. According to Chege (2015), it is common to attribute poor academic performance to lack of mastery of the particular subject skills. However, it is possible that this poor performance is due to poor reading comprehension ability.

It is necessary to teach pupils to read and comprehend at an early age because there is a need for them to have higher comprehension skills as they reach their junior and senior high schools. Apart from comprehending, there will be a need for them to be more analytical in understanding larger amount of knowledge (Suarez, 2015).

As a tenured elementary school teacher at Banaybanay Elementary School in the Division of Bayawan City, this researcher has observed that some learners are unable to read properly and fluently. Some of them are not able to answer simple questions about the reading selection given to them. It is also the observation of this researcher that most of those who have very low reading comprehension are ranked low in terms of academic performance. This observation was cross-referenced with the learners Form 138 during the first and second quarters of the present School Year.

Some of the learners are unable to properly read, but majority of them are unable to make inferences or read between lines. These observations motivated the researcher to conduct this investigative study to dig deeper into the reading problems of his pupils.

Current State of Knowledge

Early years learners with learning disabilities experience several challenges while learning English language skills, particularly reading comprehension skills. Using augmented reality (AR) in this manner can assist instructors to integrate real proofreading comprehension skills, including video modeling, and give more opportunities for individual practice. Also, it expands the breadth of interaction and mental expression in early childhood students with learning disabilities (Shaaban, T. S., & Mohamed, A. M., 2024).

As mentioned in the study of Manoharan, A., & Ramachandran, S. (2023) that Reading is a form of bi-polar communication in which the writer communicates with the reader or vice versa. It occurs in the physical and the mental realm. Reading is a transformational experience as well as a philological practice. Those who excel in reading also excel in processing and evaluating information. Understanding leads to acquisition of knowledge. Reading readiness exercises can enhance other language and reading readiness skills of children (Salutin & Maguate, 2023)

A fundamental ability that is essential to academic achievement is reading comprehension. Written materials must be understood, interpreted, and analyzed in order for pupils to learn new information, broaden their vocabulary, and refine their critical thinking skills. This article examines the value of reading comprehension as a crucial talent for academic success, demonstrating how it affects different facets of learning and offering techniques to improve this crucial ability (Khalilova, K., 2023). Further, during reading comprehension teaching, metacognitive strategies are emphasized primarily to enable students to reflect on their mental processes occurring before, during, and after reading. Through the use of metacognitive strategies, reading comprehension, and performance are enhanced (Bouknify, M., 2023).

According to Smith, R., Snow, P., Serry, T., & Hammond, L. (2021) a critical review was conducted to determine the influence background knowledge has on the reading comprehension of primary school-aged children. Review findings highlight that higher levels of background knowledge have a range of effects that are influenced by the nature of the text, the quality of the situation model required, and the presence of reader misconceptions about the text. Our findings also indicate that background knowledge impacts differentially on stronger and weaker readers. Readers with lower background knowledge appear to benefit more from text with high cohesion, while weaker readers were able to compensate somewhat for their relatively weak reading skills in the context of a high degree of background knowledge.

Moreover, in the study of Piñero, N., & Cañedo, L. (2024) discuss that reading comprehension is crucial for success and effective functioning in modern society. Understanding what is being read entails not just comprehending the content but also comprehending it thoroughly. Study results shows that the learners' reading comprehension was "frustration," which means that readers found reading materials so tricky that they could not successfully respond to the text, also means they are struggling to achieve a basic level of comprehension when reading texts. These findings underscore the importance of the teacher's role to develop and provide regular opportunities for students to practice reading aloud to improve fluency and articulation. Also, various stakeholders allocate funds to promote literacy programs and initiatives in local schools, such as reading materials and teacher professional development (Engada & Maguate, 2023).

Theoretical Underpinnings

This study was anchored on a Schema Theory of Reading, a more recent theory of reading comprehension or the "Schema Perspective".
The schema theory is significant to the study as it has placed new emphasis on various parts of the teaching process, particularly the importance of utilizing preexisting knowledge and experience of the reader, setting purposes for reading, and asking appropriate questions before and after reading. This theory also covers other key skill areas such as speaking and listening, as this allows the search for previously learned areas and reconstructing its meaning. Teachers play an important role in students' reading comprehension. It is a must that teachers must know how to assist students in setting up a cognitive structure. Teacher would be to help learners develop new schemata and establish connections between them.

The goal of schema theory is to specify the interface between the reader and the text: to specify how the reader's knowledge interacts with and shapes the information on the page and to specify how that knowledge must be organized to support the interaction. The underlying assumption is that the meaning does not lie solely on the print itself but interacts with the cognitive structure or schemata already present in the reader's mind (David, 2014).

Relating these theories to this study, a particular reader's interpretation of a printed message is influenced by the reader's personal background and history, knowledge, and the beliefs which are brought to bear in constructing schemata to provide the interpretative framework for comprehending discourse. The effect of prior knowledge can be so great that a reader may perceive only one interpretation for a text to the inclusion of other possible interpretation.

This theory largely fits this study as schemata serves as the basis for making inferences or reading between the lines and for making predictions based on observation of only part of the input. Schemata also serve as the vehicles for searching memory for previously read material and reconstructing meaning.

Objectives

This study aimed to determine the reading comprehension skills of Grade 5 learners' in Banaybanay Elementary School, Division of Bayawan City. Specifically, it sought to answer the following questions: 1) What is the level of reading comprehension skills of Grade 5 learners' according to noting details, making inferences, predicting outcomes and making generalizations; 2) What is the level of reading comprehension skills of Grade 5 learners' when they are grouped according to the aforementioned variables; 3) What is the level of academic performance of Grade 5 learners; 4) What is the level of academic performance of Grade 5 learners' when they are grouped according to aforementioned variables; 5) the significant difference in the level of reading comprehension skills of Grade 5 learners' when they are grouped and compared according to the aforementioned variables; 6) the significant difference in the level of academic performance of Grade 5 learners' when they are grouped and compared according to the aforementioned variables; and 7) significant relationship between the level of reading comprehension skills and the level of academic performance of Grade 5 learners.

Methodology

This section presents the discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedure for data analysis.

Research Design

This study utilized the descriptive research design, which aims to determine and describe the level of reading comprehension skills of Grade 5 learners' in Banaybanay Elementary School, Division of Bayawan City. Descriptive research design involves collections of quantitative information that can be tabulated along a continuum in numerical form, such as scores on a test or the number of times a person chooses to use a-certain feature of a multimedia program, or it can describe categories of information such as gender or patterns of interaction when using technology in a group situation (Shaw, 2017). Descriptive research fits the present study because it involved gathering data that describe and depicts the level of reading comprehension of learners and it equally described how data collection was done. Descriptive research design was valuable in providing facts in which scientific judgment was based on assessing the present study. Descriptive research designs are also valuable to have an important knowledge about the present situation of the study. It can be yielded to enrich data that least to import a recommendation (Santos, 2016).

Study Respondents

The respondents of the study were the 65 Grade 5 learners' who were officially enrolled at Banaybanay Elementary School. The respondents came from two sections: Section A with 31 learners' and Section B with 34 learners. Since the number of respondents is quite small and very manageable, total enumeration was followed.

Instruments

The instrument that was used in this study was a pre-validated reading selection culled from PHIL-IRI 2018 Manual. The questionnaire consists of two parts: Part 1 contained respondents' demographic profile such as age, sex, parents' highest educational attainment and nutritional status. Part II of the instrument contained the reading selections with a combined 30-line items questions about noting details, making inferences, predicting outcome, and making generalization.

The results of the study were interpreted based on the following scenario:

Oral Reading Level	**Word Reading Score (in %)**	**Comprehension Score (in %)**
Independent	97-100%	80-100%
Instructional	90-96%	59-79%
Frustration	89% and below	58% and below

Source: *Phil IRI 2018 Manual, Table 7, Page 21*

Validity and reliability was not conducted for this study since the research instrument contained reading selections from Phil-IRI, thus deemed pre-validated.

Data Gathering Procedure

There was a letter request addressed to the Schools Division Superintendent for the conduct of the study submitted for approval. Upon approval, that letter was attached to the letter addressed to the school principal of Banaybanay Elementary School. After securing the approval for the second request, questionnaires were administered to target respondents. The data gathered from the responses of the respondents was tallied and tabulated using the appropriate statistical tools. The raw data was transformed into numerical code guided by a coding manual. This allowed computer processing, statistical derivations and tabular presentation. The Statistical Package for Social Sciences (SPSS) was used in the computer processing of the encoded data.

Data Analysis and Statistical Treatment

Objective No.1 used a descriptive-analytical scheme and mean determine the level of reading comprehension skills of Grade 5 learners' according to the following areas such as: noting details, making inferences, predicting outcome and making generalization.
Objective No.2 used a descriptive-analytical scheme and mean to determine the level of reading comprehension skills of Grade 5 learners' when grouped according to the aforementioned variables.
Objective No.3 used a descriptive-analytical scheme and mean to determine the level of academic performance of Grade 5 learners.
Objective No.4 used a descriptive-analytical scheme and mean determine the level of academic performance of Grade 5 learners' when grouped according to aforementioned variables.
Objective No.5 used a comparative-analytical scheme and t-test and F-test (ANOVA) to determine the significant difference in the level of reading comprehension skills of Grade 5 learners' when they are grouped and compared according to the aforementioned variables.
Objective No.6 used a comparative-analytical scheme and t-test and F-test to determine the significant difference in the level of academic performance of Grade 5 learners' when grouped and compared according to the aforementioned variables.
Objective No. 7 used relational analytical scheme and Pearson Product Moment Coefficient of Correlation (Pearson r) determine the significant relationship between the level of reading comprehension skills and the level of academic performance of Grade 5 learners

Ethical Consideration

Ethical considerations in research are principles that guide your research designs and practices. Scientists and researchers must always adhere to a specific code of conduct when collecting data from people (P. Bhandari, 2022). Voluntary participation, Informed consent, confidentiality, and plagiarism will be strictly considered. Study participants will not be forced or pressured; they can withdraw at any time without giving any reason to withdraw. The study participants will be thoroughly informed about the purpose and nature of the study, including the benefits, risks, and consequences. The study participants will be assured of the confidentially of all information relevant to their personal information or any form of identifying information relating to their person.

Results and Discussion

This section deals with the presentation, analysis and interpretation of data gathered to carry out the objectives of this study. All these were made possible by following certain appropriate procedures so as to give the exact data and solution to each specific problem.

Table 3
Level of Reading Comprehension Skills of Grade 5 Learners

Areas	Mean	Interpretation
Noting Details	66.64	Instructional
Making Inferences	57.33	Frustration
Predicting Outcome	60.01	Instructional
Making Generalization	81.82	Independent
Overall Mean	**66.45**	**Instructional**

Table 3 shows the level of reading comprehension skills of Grade 5 learners.

In the area of Noting details obtain a mean score of 66.64, interpreted as "instructional". In the area of making inferences got a mean score of 57.33, interpreted as "frustration". In the area of predicting outcome got a mean score of 60.01, interpreted as "instructional". In the area of making generalization got a mean score of 81.82, interpreted as "independent". The overall mean score was 66.45, interpreted as "instructional".

The results indicated that most of the Grade 5 pupils were very good in making generalizations when they are reading, however, the results indicated that they were quite poor in making inferences. This goes to show that the learners are able to physically read the reading selections given to them but there unable to fully digest or understand the things there were reading, thus they are unable to make proper inference or make any prediction on the outcome of the story. The over-all mean scores indicated that the level of reading comprehension skills of Grade 5 learners were at instructional level which means that the learners have an adequate reading level but needing large amount of assistance to fully understand the context of what they are reading. Inference can be defined as the process of drawing of a conclusion based on the available evidence plus previous knowledge and experience. Students begin the process of learning to read with simple decoding. From there, they work towards full comprehension of the text by learning to understand what has been said, not only through what is explicitly stated on the page, but also through what the writer has implied. It is this ability to read what has been implied that the term inference refers to (Mac Donnchaidh, 2019).

Table 4
Level of Reading Comprehension Skills of Grade 5 Learners According to Sex

Areas	**Male**		**Female**	
	Mean	Interpretation	Mean	Interpretation
Noting Details	71.40	Instructional	64.42	Instructional
Making Inferences	60.50	Instructional	55.85	Frustration
Predicting Outcome	53.97	Frustration	62.82	Instructional
Making Generalization	87.62	Independent	79.11	Instructional
Overall Mean	**68.38**	Instructional	**65.55**	Instructional

Table 4 shows the level of reading comprehension skills of Grade 5 learners according to sex**.**

In the area of noting details, male group got a mean score of 71.40 and 64.42 for female group, both were interpreted as "instructional. In the area of making inferences, male group got a mean score of 60.50, interpreted as "instructional" while the female group got a mean score of 55.82, interpreted as "frustration". In the area of predicting outcome, male group got a mean score 53.97, interpreted as "frustration" while the female group got a mean score of 62.82, interpreted as "instructional". In the area of making generalization, male group got a mean score of 87.62, interpreted as "independent", while the female group got a mean score of 79.11, interpreted as "instructional. The overall mean scores were 68.38 for male group and 65.55 for female group, both were interpreted as "instructional".

The results indicated that the Male group were very strong in making generalizations (independent level) but they were very poor in predicting outcomes (frustration level). Meanwhile, the female group was good in making generalizations (instructional) level but very poor in making inferences (frustration level). Statistically speaking, the level of reading comprehension of Grade 5 learners was dominated by the male group as they scored higher than the female group. The over-all scores simply revealed that both Male and Female groups largely need assistance in understanding what they read, particularly the female group.

According to the University of Utah Reading Clinic (2019), Instructional reading level is the highest level at which a reader is not independent, but has adequate background knowledge for a topic, and can access text quickly and with no or few errors. Think of independent level as the highest level you would ask a child to read with only a small amount of assistance. The vast majority of text that a child reads during the school day should not exceed this level.

Table 5
Level of Reading Comprehension Skills of Grade 5 Learners According to Parents' Highest Educational Attainment

Areas	**Elementary**		**High School**		**College**	
	Mean	Interpretation	Mean	Interpretation	Mean	Interpretation
Noting Details	74.70	Instructional	65.17	Instructional	63.25	Instructional
Making Inferences	50.51	Frustration	58.20	Frustration	61.23	Instructional
Predicting Outcome	71.40	Instructional	54.68	Frustration	64.25	Instructional
Making Generalization	92.31	Independent	82.05	Independent	71.43	Instructional
Overall Mean	**72.23**	Instructional	**65.03**	Instructional	**65.04**	Instructional

Table 5 shows the level of reading comprehension skills of Grade 5 learners according to parents' highest educational attainment.

In the area of noting details got a mean score of 74.70 for elementary level; 65.17 for high school level and 63.25 for college level, all were interpreted as "instructional". In the area of making inference got a mean score of 50.51 for elementary level and 58.20 for high school level, both were interpreted as "frustration", while the college level

got a mean score of 61.23, interpreted as "instructional". In the area of predicting outcome got a mean score of 71.40 for elementary level and 64.25 for college level, both were interpreted as "instructional", while the high school level got a mean score of 54.68, interpreted as "frustration". In the area of making generalization got a mean score of 92.31 for elementary level and 82.05 for high school level", both were interpreted as "independent", while the college level got a mean score of 71.43, interpreted as "instructional". The overall mean scores were 72.23 for elementary; 65.03 for high school level and 65.04 for college level, all were interpreted as "instructional".

The results indicated that the learners whose parents were elementary or high school level were very good in making generalizations but they were very poor in making inferences. This means that they are unable to read between lines or unable to understand fully the meaning of the reading selection through context clue. Ironically, the learners who whose parents reached or graduated tertiary education were neither good or bad in all areas but they were all at instructional level, none of them reached the independent level, unlike with the other 2 groups. This goes to show that the highest educational attainment of the parents could not guarantee the level of reading comprehension skills of the learners. As it all appeared, the three groups of readers were all at instructional levels which means that regardless of their parents' highest educational attainment, the Grade 5 learners need further guidance by their English/Reading Teacher.

Frustration reading levels include text for which a reader does not have adequate background level for a topic and/or cannot meet criteria for instructional levels of accuracy and rate. Think of frustration levels as those levels that require extensive or even moderate assistance from an educator (Reading Clinic at the University of Utah, 2019).

Table 6
Level of Reading Comprehension Skills of Grade 5 Learners According to Nutritional Status

Areas	Normal		Wasted	
	Mean	Interpretation	Mean	Interpretation
Noting Details	68.64	Instructional	53.96	Frustration
Making Inferences	60.96	Instructional	34.93	Frustration
Predicting Outcome	65.63	Instructional	24.38	Frustration
Making Generalization	84.91	Independent	62.22	Instructional
Overall Mean	**70.02**	Instructional	**43.88**	Frustration

Table 6 shows the level of reading comprehension skills of Grade 5 learners according to nutritional status.

In the area of noting details got a mean score of 68.64 for normal group, interpreted as "instructional", while the wasted group got a mean score of 53.96, interpreted as "frustration". In the area of making inferences got a mean score of 60.96 for normal group, interpreted as "instructional", while the wasted group got a mean score of 34.93, interpreted as "frustration". In the area of predicting outcomes got a mean score of 65.63 for normal group, interpreted as "instructional", while the wasted group got a mean score of 24.98, interpreted as "frustration". In the area of making generalization got a mean score of 84.91 for normal group, interpreted as "independent", while the wasted group got a mean score of 62.22, interpreted as "instructional". The overall mean scores were 70.02 for normal group, interpreted as "instructional" and 43.88 for wasted group, interpreted as "frustration".

This implies that learners with Normal Nutritional status were very good in making generalizations but not bad enough for the rest of the reading comprehension areas. Although the over-all result showed that learners with normal nutritional status were at instructional level only, the results impressively landed without any frustration level on-sight.

On one hand, the result of the study indicated that learners with wasted nutritional status were found to be at the frustration levels with noting details, making inferences and predicting outcomes, and their over-all score was at frustration level as well. This provides us with a revealing message that indeed, learners' nutritional status affects their level of reading comprehension.

While the intake of food is vital for proper performance, many of the widely available and popular foods in schools today are actually hindering children's abilities to learn. Loaded with sugars, caffeine, chemicals, and sodium, many popular menu items are leaving kids tired, unfocused, jittery, and sick—which not only impact students' Grades and performance, but also influences their behavior and moods (Chen, 2018).

Table 7
Level of Academic Performance

Section	Mean	Interpretation
A	83.85	Satisfactory
B	84.90	Satisfactory
Total	**84.38**	Satisfactory

Table 7 shows the level of academic performance in terms of their section.

Section A obtain a mean score 83.85 and 84.90 for section B, both were interpreted as "satisfactory". The overall mean score was 84.38, interpreted as "satisfactory".

This implies that in terms of performance, section B outperformed section A. With section B, 63% of its total learners were able to surpass the satisfactory level while with section A, only 38% were able to hurdle past satisfactory level. The room for improvement is still very wide for both sections but there would be lesser effort for section B. Massive efforts are needed with section A to pull up the academic performance of leaners way up above the satisfactory level.

Table 8
Level of Academic Performance when Grouped According to Variables

Variables	Category	Mean	Interpretation
Sex	Male	84.10	Satisfactory
	female	85.27	Very Satisfactory
Parents' Highest Educational Attainment	elementary	83.85	Satisfactory
	high school	84.90	Satisfactory
	college	85.86	Very Satisfactory
Nutritional Status	normal	85.32	Very Satisfactory
	wasted	82.22	Satisfactory

When grouped according to sex, male group has a mean score of 84.10, interpreted as "satisfactory" and 85.27 for female group, interpreted as "very satisfactory". When grouped according to parents' highest educational attainment, elementary level has a mean score of 83.85 and 84.90 for high school level, both were interpreted as "satisfactory", while college level got a mean score of 85.86, interpreted as "very satisfactory". When grouped according to nutritional status, normal group has a mean score of 85.32, interpreted as "very satisfactory" and 82.22 for wasted group, interpreted as "satisfactory".

This means that in terms of their academic performance, when grouped according to aforementioned variables, the female group performed way better than the male group. Also, the learners whose parents were elementary and high school satisfactorily performed but those whose parents reached college performed better than the two groups. The findings further showed that the learners whose nutritional status was normal outperformed the learners who were classified as wasted.

Table 9
Difference in the Level of Reading Comprehension Skills of Grade 5 Learners in the Area of Noting Details According to Variables

Variables	Category	Mean	t	F	*p*-value	Sig level	Interpretation
Sex	male	71.40	1.706	-	0.093		Not Significant
	female	64.42					
Parents' Highest Educational Attainment	elementary	74.70	-	2.293	0.109	0.05	Not Significant
	high school	65.17					
	college	63.25					
Nutritional Status	normal	68.64	2.731	-	0.008		Significant
	wasted	53.96					

Table 9 shows the comparative analysis in the level of reading comprehension skills of Grade 5 learners in the area of noting details according to variables.

When grouped according to sex, male group has a mean score of 71.40 and 64.42 for female group, the computed t-test was 1.706 and the *p*-value was 0.093, it is higher than the 0.05 level of significance, interpreted as "not significant". When grouped according to parents' highest educational attainment, elementary level has a mean score

of 74.70, for high school level was 65.17 and 63.25 for college level, the computed f-test was 2.293 and the *p*-value was 0.109, it is higher than the 0.05 level of significance, interpreted as "not significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of noting details according to sex and parents' highest educational attainment" was therefore "accepted".

This implies that sex and parents' highest educational attainment does not significantly affect the reading comprehension skills of Grade 5 learners in the area of noting details.

When grouped according to nutritional status, normal group has a mean score of 58.64 and 53.96 for wasted group, the computed t-test was 2.731 and the *p*-value was 0.008, it is lower than the 0.05 level of significance, interpreted as "significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of noting details according to nutritional status" was therefore "rejected".

This implies that nutritional status significantly affects the reading comprehension skills of Grade 5 learners in the area of noting details.

The ability of learners to comprehend what they read appeared to be significantly affected by their nutritional status.

According to David (2018), advocates of child health have experimented with students' diets in the United States for more than twenty years. Initial studies focused on benefits of improving the health of students are apparent. Likewise, improved nutrition has the potential to positively influence students' academic performance and behavior. Several studies show that nutritional status can directly affect mental capacity among school-aged children. For example, iron deficiency, even in early stages, can decrease dopamine transmission, thus negatively impacting cognition. Deficiencies in other vitamins and minerals, specifically thiamine, vitamin E, vitamin B, iodine, and zinc, are shown to inhibit cognitive abilities and mental concentration. Additionally, amino acid and carbohydrate supplementation can improve perception, intuition, and reasoning. There are also a number of studies showing that improvements in nutrient intake can influence the cognitive ability and intelligence levels of school-aged children.

Table 10
Difference in the Level of Reading Comprehension Skills of Grade 5 Learners in the Area of Making Inferences According to Variables

Variables	Category	Mean	t	F	*p*-value	Sig level	Interpretation
Sex	male	60.50	0.692	-	0.491		Not Significant
	female	55.85					
Parents' Highest Educational Attainment	elementary	50.51	-	0.651	0.525	0.05	Not Significant
	high school	58.20					
	college	61.23					
Nutritional Status	normal	60.86	3.023	-	0.004		Significant
	wasted	34.93					

Table 10 shows the comparative analysis in the level of reading comprehension skills of Grade 5 learners in the area of making inferences according to variables.

When grouped according to sex, male group has a mean score of 60.50 and 55.85 for female group, the computed t-test was 0.692 and the *p*-value was 0.491, it is higher than the 0.05 level of significance, interpreted as "not significant". When grouped according to parents' highest educational attainment, elementary level has a mean score of 50.51, for high school level was 58.20 and 61.23 for college level, the computed f-test was 0.651 and the *p*-value was 0.525, it is higher than the 0.05 level of significance, interpreted as "not significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of making inferences according to sex and parents' highest educational attainment" was therefore "accepted". This implies that sex and parents' highest educational attainment does not significantly affect the reading comprehension skills of Grade 5 learners in the area of making inferences.

When grouped according to nutritional status, normal group has a mean score of 60.86 and 34.93 for wasted group, the computed t-test was 3.023 and the *p*-value was 0.004, it is lower than the 0.05 level of significance, interpreted as "significant". Thus, the hypothesis that states, "there is no significant difference in the level of reading

comprehension skills of Grade 5 learners in the area of making inferences according to nutritional status" was therefore "rejected". This implies that the nutritional status significantly affects the reading comprehension skills of Grade 5 learners in the area of making inferences.

Sociologists and economists have looked more closely at the impact of a student's diet and nutrition on academic and behavioral outcomes. Researchers generally find that a higher quality diet is associated with better performance on exams, and that programs focused on increasing students' health also show modest improvements in students' academic test scores (Florence, 2018).

Good Nutrition helps students show up at school prepared to learn. Because improvements in nutrition make students healthier, students are likely to have fewer absences and attend class more frequently. Studies show that malnutrition leads to behavior problems and that sugar has a negative impact on child behavior (Jone, 2015).

Table 11
Difference in the Level of Reading Comprehension Skills of Grade 5 Learners in the Area of Predicting Outcome According to Variables

Variables	Category	Mean	t	F	*p*-value	Sig level	Interpretation
Sex	male	53.97	-1.375	-	0.174		Not Significant
	female	62.82					
Parents' Highest Educational Attainment	elementary	71.40					
	high school	54.68	-	2.660	0.078	0.05	Not Significant
	college	64.25					
Nutritional Status	normal	65.63	5.720	-	0.000		Significant
	wasted	24.38					

Table 11 shows the comparative analysis in the level of reading comprehension skills of Grade 5 learners in the area of predicting outcomes according to variables.

When grouped according to sex, male group has a mean score of 53.97 and 62.82 for female group, the computed t-test was -1.375 and the *p*-value was 0.174, it is higher than the 0.05 level of significance, interpreted as "not significant". When grouped according to parents' highest educational attainment, elementary level has a mean score of 71.40, for high school level was 54.68 and 64.25 for college level, the computed f-test was 2.660 and the *p*-value was 0.078, it is higher than the 0.05 level of significance, interpreted as "not significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of predicting outcomes according to sex and parents' highest educational attainment" was therefore "accepted".

This implies that sex and parents' highest educational attainment does not significantly affect the reading comprehension skills of Grade 5 learners in the area of predicting outcomes.

When grouped according to nutritional status, normal group has a mean score of 65.63 and 24.38 for wasted group, the computed t-test was 5.720 and the *p*-value was 0.000, it is lower than the 0.05 level of significance, interpreted as "significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of predicting outcomes according to nutritional status" was therefore "rejected".

This implies that nutritional status significantly affects the reading comprehension skills of Grade 5 learners in the area of predicting outcomes.

Ross (2015), stated that nutrition has a direct effect on neurotransmitters which are important in sending messages from the body to the brain. Specific dietary components were shown to have negative effects on this system, many of which are commonplace in school-aged children's daily eating.

Table 12
Difference in the Level of Reading Comprehension Skills of Grade 5 Learners in the Area of Making Generalization According to Variables

Variables	Category	Mean	t	F	*p*-value	Sig level	Interpretation
Sex	male	87.62	1.678	-	0.098		Not Significant
	female	79.11					
Parents' Highest Educational Attainment	elementary	92.31	-	4.285	0.018	0.05	Significant
	high school	82.05					
	college	71.43					
Nutritional Status	normal	84.91	3.528	-	0.001		Significant
	wasted	62.22					

Table 12 shows the comparative analysis in the level of reading comprehension skills of Grade 5 learners in the area of making generalization according to variables.

When grouped according to sex, male group has a mean score of 87.62 and 79.11 for female group, the computed t-test was 1.678 and the *p*-value was 0.098, it is higher than the 0.05 level of significance, interpreted as "not significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of making generalization according to sex" was therefore "accepted".

This implies that sex does not significantly affect the reading comprehension skills of Grade 5 learners in the area of making generalization.

When grouped according to parents' highest educational attainment, elementary level has a mean score of 92.31, for high school level was 82.05 and 71.43 for college level, the computed f-test was 4.285 and the *p*-value was 0.018, it is lower than the 0.05 level of significance, interpreted as "significant". When grouped according to nutritional status, normal group has a mean score of 84.91 and 62.22 for wasted group, the computed t-test was 3.528 and the *p*-value was 0.001, it is lower than the 0.05 level of significance, interpreted as "significant".

Thus, the hypothesis that states, "there is no significant difference in the level of reading comprehension skills of Grade 5 learners in the area of making generalization according to parents' highest educational attainment and nutritional status" was therefore "rejected".

This implies that parents' highest educational attainment and nutritional status significantly affects the reading comprehension skills of Grade 5 learners in the area of making generalization.

Table 13
Difference in the Level of Academic Performance When Grouped According to Variables

Variables	Category	Mean	t	F	*p*-value	Sig level	Interpretation
Sex	male	84.10	-1.355	-	0.180		Not Significant
	female	85.27					
Parents' Highest Educational Attainment	elementary	83.85	-	1.268	0.288	0.05	Not Significant
	high school	84.90					
	college	85.86					
Nutritional Status	normal	85.32	2.749	-	0.008		Significant
	wasted	82.22					

When grouped according to sex, male group has a mean score of 84.10 and 85.27 for female group, the computed t-test was -1.335 and the *p*-value was 0.180, it is higher than the 0.05 level of significance, interpreted as "not significant". When grouped according to parents' highest educational attainment, elementary level has a mean score of 83.85, for high school level was 84.90 and 85.86 for college level, the computed f-test was 1.268 and the *p*-value was 0.288, it is higher than the 0.05 level of significance, interpreted as "not significant".

Thus, the hypothesis that states, "there is no significant difference in the level of academic performance when grouped according to sex and parents' highest educational attainment" was therefore "accepted".

This implies that sex and parents' highest educational attainment does not significantly affect the academic performance of Grade 5 pupils.

When grouped according to nutritional status, normal group has a mean score of 85.32 and 82.22 for wasted group, the computed t-test was 2.749 and the *p*-value was 0.008, it is lower than the 0.05 level of significance, interpreted as "significant".

Thus, the hypothesis that states, "there is no significant difference in the level of academic performance when grouped according to nutritional status" was therefore "rejected".

This implies that nutritional status significantly affects the academic performance of Grade 5 pupils.

Table 14
Relationship between the Level of Reading Comprehension and Academic Performance

Variable	r	*p*-value	Sig level	Interpretation
Reading Comprehension Academic Performance	0.615	0.043	0.05	Significant

The reading comprehension and academic performance has the computed r-value of 0.615 and the *p*-value was 0.043, it is lower than the 0.05 level of significance, interpreted as "significant".
Thus, the hypothesis that states, "there is no significant relationship between the level of reading comprehension and academic performance" was therefore "rejected".

This implies that reading comprehension significantly affect the academic performance of Grade 5 pupils. The more the learner is able to read properly and the higher is comprehension level is, the higher is the academic performance.

Hijazi (2018), conducted a study aimed at investigating the relationship between students' reading comprehension and their achievement in English at Yarmouk University. The sample consisted of 150 female and male students. The findings revealed that students' reading comprehension was of a medium degree and their achievement in English was of a medium degree, too. Besides, there were no statistically significant differences in students' reading comprehension or in their achievement due to gender. On the other hand, there were statistically significant differences in students' reading comprehension and in their achievement due to college in favor of the college of science. Moreover, there was a statistically significant relationship between students' reading comprehension and their achievement in English since reading comprehension positively affects students' achievement.

Conclusions:

The level of reading comprehension of Grade 5 learners was at instructional level. They were good in making generalizations but very poor in making inference. This means that the learners require massive amount of supervision in order to move past the instructional level. It is safe to conclude that learners could read fairly but unable to deeply understand what they read.
Learners who were considered wasted in terms of their nutritional status was at the frustration level when it comes to reading comprehension. It can be drawn from this result that those whose nutritional status were wasted have issues in reading text selections, having issues reading between the lines, thus they are unable to predict outcome nor make any sound generalizations.

The average academic performance of Grade 5 learners showed that the learners whose parents were college level/graduate performed better in school. This goes to show that these learners were perhaps being assisted by their parents at home.
note that this is academic performance, over-all standing in all subjects, not just reading.

There was a significant in the level of reading comprehension of Grade 5 learners when grouped according to nutritional status because those who were classified under the wasted category was at the frustration level compared to those who were not. This means that nutrition affects the ability of students to read, to understand what they read and down the line.

There was a significant relationship between the level of reading comprehension of learners and their academic performance. This means that the higher reading comprehension of learners, the more chances for them to land better in terms of academic performance.

Recommendations

The reading comprehension of Grade 5 learners was on instructional level. This required profound attention when it comes to reading supervision. There is a need for an intervention plan to improve reading comprehension level of Grade 5 pupils. It is recommended that intervention plans like Higher Order Thinking Skills (HOTS) or Marungko Approach in Reading be used as part of the Intervention Plan.

Higher-order thinking skills (HOTS) is a concept popular in American education. It distinguishes critical thinking skills from low-order learning outcomes, such as those attained by rote memorization. HOTS include synthesizing, analyzing, reasoning, comprehending, application, and evaluation. HOTS is based on various taxonomies of learning, particularly the one created by Benjamin Bloom in his 1956 book, "Taxonomy of Educational Objectives: The Classification of Educational Goals." Higher-order thinking skills are reflected by the top three levels in Bloom's Taxonomy: analysis, synthesis, and evaluation. This can be administered by the teacher in-charge with the parent's cooperation.

On one hand, Marungko Approach is designed to equip Graders the necessary materials to improve their achievement in reading. Likewise, it seeks to develop a training model to enhance teachers' competence in the teaching of reading in the elementary grade most especially in grade one.

The goal of this strategy in reading is to enable pupils to instill in their minds to appreciate the songs and poems created for Filipino children and eventually to communicate in written and oral forms through effective reading instruction. Marungko Approach is used in teaching reading and in remedial reading sessions. This can be undertaken in usual classes by the reading teacher.

There is also a need to correct the level of learners' nutritional status from wasted to normal. There should be a collaborative effort between the School Head, Grade 5 teachers and the School-Based Feeding Program coordinator. While children's diet at home should be controlled, there is a greater need to control what they eat in school considering that they are in school 5 days out of 7 in a week. By making sure their Body Mass index qualify them towards normal nutritional level, the wasted group can slowly pick up and keep pace with those who were at the instructional level or more. However, while the wasted learners are still coping, it is recommended that Remedial Reading Classes be done to assist their learnings. This can be done for an hour every weekend at the school grounds for 3 months. There should a confirmation of learning every week. Parents should be involved; remedial reading classes may be done by the English / Reading teacher.

Acknowledgment

The writer expresses his sincere gratitude and appreciation to the following people that have played important roles in the pursuit of this study. To Dr. Mario A. Dejito, researcher's adviser for his patience, availability and guidance in the conception, organization and refinement of this research; and to his panel members for the generosity of their expertise, constructive criticisms and suggestions for the completion of this research.

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