Nutritional Status and Reading Ability of IP Students in Patel Elementary School, Kapalong East District Davao del Norte

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ABSTRACT

The purpose of this study was to determine the relationship between nutritional status and reading ability among the indigenous students (IP) of Patel Elementary School. The results of the study will be added to the body of knowledge and established literature review in understanding the variables. The study employed quantitative, non-experimental method employing correlation techniques to describe existing characteristics. Mean and Pearson r were the statistical tools used to determine the level of significance of the two variables. The respondents were composed of 114 students from Grades I-IV classes of Patel Elementary School, randomly selected. The study revealed that their level of nutritional status in terms of body height and weight were below normal, while in terms of Body Mass Index (BMI), it appears to be normal. On the other hand, it is uncovered that their level of reading ability in terms of word recognition is in frustration level while in terms of comprehension, it appears to be in instructional level. In addition, the study showed that there is no significant relationship between the nutritional status and reading ability of the IP students. Despite such, it is evident that they need nutrition and enhancement of reading ability.

Keywords : indigenous students, nutritional status, reading ability, Philippines

1 INTRODUCTION

Early identification is crucial when it comes to helping children who are having trouble in learning to read. One of the most compelling findings from recent reading research is that children who get off poor start in reading rarely catch up. As several studies have now documented, the poor first grade reader almost invariably continues to be poor reader. [1].

In the Philippines particularly is Central Visayas, the year 2004 was a frustrating year for education. As shown by the poor results in students and teacher examination. Sometime in July, results from the Philippine Informal Reading Inventory showed that 78% of students in Cebu City's 68 public schools are poor English readers. About 54, 787 out of 72, 751 students who took the examination failed badly. The Department of Education offered casual factors for reading deficiencies of students in the city's public schools, saying that the environment or community could have been bearing in the child's ability to read well [2].

In Kapalong, Davao Del Norte particularly in Patel, Gupitan, one of the several indigenous people in the country, is one of the less fortunate groups of people. Their beliefs, customs and cultural pattern are much different from that of the mainstream of population, much on the academic performance of children who could hardly read both English and Filipino. The Principal in particular is trying to instruct and encourage teachers to have initiative and provide reading materials to the pupils in the classrooms. Hence, there should be data to assess and evaluate the reading proficiency of pupils. It is in this premise that the researcher conducted the study to determine the nutritional status and reading ability of IP students particularly in Patel, Kapalong, Davao Del Norte.

Statement of the Problem
This study aimed to measure the levels of nutritional status and reading ability of indigenous students in Kapalong.

More specifically, this study sought to answer to the following questions:
1. What is the level of nutritional status in terms of:
   1.1 Height
   1.2 Weight; and
   1.3 Body Mass Index (BMI).
2. What is the reading ability in terms of:
   1.1 comprehension; and
   1.2 word recognition.
3. Is there a significant relationship between the nutritional status and reading ability of indigenous students?

Hypothesis
The following hypothesis below was tested at 0.05 level of significance.

There is no significant relationship between nutritional status and reading ability of indigenous students.

REVIEW OF RELATED LITERATURE

Nutritional Status

Indigenous people in most developing countries are often neglected in developing efforts, as they are minority groups in those societies. These Indigenous people are often the poorest of the poor and increasingly at great risk of losing their biological and cultural diversity, which consequently affects their health, nutrition, education and quality of life now and in the future [3].

Moreover, it is ascertained that it is important also to note that nutritional status affects the readiness of a child. The number of Filipino children who were underweight and under height increased from 2005-2008. Based on the classification of worldwide prevalence large among children under 5 years of age. The nutritional status was considered poor in west region except for Central Visayas and Davao Regions. Chronic malnutrition affected a very higher percentage in the province of Masbate, Biliran, Northern and Southern Samar, Zamboanga, Sibugay, Abra and Mt. Province in which these provinces were also 30% at risk of acute malnutrition among pre-schoolers as prevalence to underweight [4].

One in every three people in the world is at a risk for one or more micronutrient deficiencies, thereby impacting on their nutritional status. Our nutritional status has an important impact on our health, productivity and quality of life in general [5].

If a health problem is to affect the readiness gap, it must affect many children, it must be linked to academic performance or behavior problems. Currie considers health condition to seriously impair cognitive skills and behavior in individual children. The cumulative effect of health differentials summed over all conditions is significant [6].

Nutritional assessment was made using anthropometric, biochemical and clinical methods. Growth, monitoring, supplementary feedings and nutrition education were common feature programs of all school. Therefore, health and nutritional status is one of many factors which could influence learning since malnutrition occurs primarily in poor environment where other deprivations exist which may also limit the child's development [7].

Reading Ability

To ensure that a child develops her reading ability in a round way, a number of practices must be implemented. Parents must read to their children at an early age. Teachers must be trained in various method of reading instruction to ensure that every child's needs are met. Reading materials must be age- appropriate to ensure that the child is challenged but not discouraged by too much difficulty [8].

Moreover, it stated that from early development of education, reading program has been a principal focus of various researches and studies abroad. Today 10 million American school children are poor readers. This phenomenon triggered and challenges the American community to arrest the problem. The phrase reading war has been the popular description for long running disagreement about the best way to teach children to read. Fierce battles have been waged by academics and theorists since the late 1800's, with classroom teacher often spinning like weather-vanes as they tried to align practices with the prevailing winds of events [9].

Anent to such, it is pointed out that Phil-IRI is an authentic reading assessment tool that attempts to evaluate the reading proficiency level of public elementary pupils nationwide. It is an informal measure that determines the children's' use of comprehension, vocabulary and word identification strategies within the context of the story, passage or poem. It provides teachers with both quantitative and qualitative information about the children's reading capabilities [10].

In the United States of America, particularly in Bright Horizon Schools, students were found 100% not ready upon reaching Kindergarten and grade 1. Worst to this, as academic level increases the readiness decreases. This is mostly prevailing among school children who are transferees from other school. According to the 2002 and 2003 National Card a reading by the National Assessment of Educational Progress (NAEP) reveals that most of the children are less than proficient in reading. Thus, reading problems pervade their society as a consequence, even less than 200 billion dollars a year in income [11].

In the article in Journal of Education, it is stated that a successful program to deal with individual differences in reading ability in classroom depended on determining the range of abilities, the type of difficulties, and in planning for adjustment of these difficulties. He dealt with school provision for children with severe reading disabilities and he was concerned with the discovering and providing for individual differences in the classroom. He added that a good reading program must plan for the use of a child's reading interest and an expansion of this understanding of reading uses [12].

Theoretical Framework

This study was anchored on a study which stated that better nourished children do significantly better in the mental ability test, specific test of basic skills, such as Reading, Arithmetic and Communication Arts: and overall assessment of academic competence [7].

This study is also supported with a theory that cited if a health problem is to affect the readiness gap, it must affect many children, it must be linked to academic performance or behavior problems. Currie considers health condition to seriously impair cognitive skills and behavior in individual children. The cumulative effect of health differentials summed over and conditions is significant [6].

Significance of the Study

The researcher is going to extend the gathered information to the following beneficiaries.

Local Government Unit. This study will help them implement the importance of nutrition programs and reading centers to IP communities for the students to become healthy and improved academic performance.

DepEd Officials. The result of the study will provide information on pupils' reading proficiency and shall serve as basis for appropriate interventions as stated in DepEd Memo

No. 186. s. 2007. The study will help them to utilize as basis in drawing up the necessary health programs for every school.

School Heads. The result of this study might yield valuable information to enlighten people in authority to monitor and evaluate the nutritional status and reading ability of the students.

Classroom Teachers. It will help teachers to identify what aspect of health condition of students that will affect the pupil's reading performance.

Parents. This study will provide the parents to monitor the health condition and reading performance of their children.

Students. This study will provide the pupils to be aware of his nutrition status and reading performance.

Future Researchers. The researcher recommends that future studies be made on the nutritional status and reading ability of IP students and that they may be guided by the findings of this study

FIGURE 1
CONCEPTUAL PARADIGM OF THE STUDY
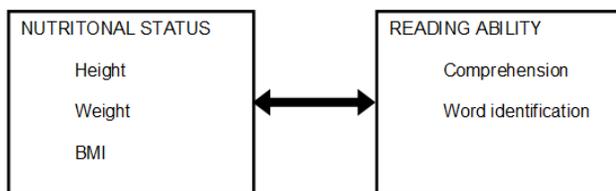
DEFINITION OF TERMS

For clarity and understanding, the following terms were defined:

Nutritional Status. In this study it refers to the growth standard for screening, surveillance and monitoring of school children that correlates weight and height to learn body mass per DepEd Memo. No.165, s. 2010.

Reading Ability. In this study it refers to the measurement of the ability of students in terms of independent, instructional, and frustration as result of their assessment.

2 METHOD

Research Design

The descriptive- correlation design of research was used in this study. Descriptive since the researcher determined the varying conditions that affect the dependent variable. Data were collected to have quality information needed and to ensure that the results were objectively analyzed.

Research Subject

This study was conducted in Davao Del Norte particularly in Patel, Gupitan, Kapalong. The respondents of the study were grade I to IV student for the school year 2010-2011. The total respondents were the (114) one hundred and fourteen students. The data was taken from the District Reading Coordinator and District Health Coordinator respectively. The researcher asked the data from the District Coordinator for Nutrition of Kapalong East District to be used in this study. The actual respondents of this study were

composed of Grade I – (34) thirty-four pupils, Grade II – (32) thirty-two pupils, Grade III – (22) twenty-two pupils and Grade IV- (26) twenty-six pupils of Patel Primary School. Table 1 shows the distribution of respondents of the study.

Research Instrument

The study made use of the secondary data taken from the Kapalong East District Office. This consisted of two sets of data. The first set of data was the Nutritional Status Report of children which give the information on the Date of Birth of each child, age, weight (kg), Height (cm) and the Body Mass Index (BMI). The chart determined the Nutritional Status of Children whether its Severely Wasted (SW), Wasted (W), Normal (N), Overweight (OW), and Obese (O). The second data is the summary of Grade 1 to 4 pupils on the Reading ability whether a child belongs to frustration, instructional and independent.

TABLE 1
DISTRIBUTION OF RESPONDENTS

GRADE LEVEL	Sex		Total no. of Respondents	Percentage
	Male	Female		
Grade I	17	17	34	30%
Grade II	18	14	32	28%
Grade III	11	11	22	19%
Grade IV	15	11	26	23%
TOTAL	61	43	114	100%

TABLE 2
RANGE OF BODY MASS INDEX

Range of BMI	Nutritional Status	Interpretation
12 – 15.8	Severely wasted	Body Mass Index is way below normal classified as severely malnourished.
15.9 – 17.5	Wasted	Body Mass Index is moderately low considered moderately underweight but fall short from being normal.
17.6 – 29.7	Normal	Body Mass Index that is typically considered healthy for the school children.
29.8 – 35.5	Overweight	Generally defined as having more body fat that is optimally healthy.
35.6	Obese	Body Mass Index is way above the normal weight range.

Data Gathering Procedure

The study made use of the secondary data taken from the Kapalong East District Office. This consisted of two sets of data. The first set of data was the Nutritional Status Report of

TABLE 3
RANGE OF BODY MASS INDEX

Word Recognition	Comprehension	Reading Level	Interpretation
97-100	80-100	INDEPENDENT	The student manifests sufficiency in terms of word recognition and comprehension.
90 – 96	59 – 79	INSTRUCTIONAL	The student manifests minimal need for supervision in terms of word recognition and comprehension.
89 and below	58 and below	FRUSTRATION	The student manifests extreme need for supervision in terms of word recognition and comprehension.

children which give the information on the Date of Birth of each child, age, weight (kg), Height (cm) and the Body Mass Index (BMI). The chart determined the Nutritional Status of Children whether its Severely Wasted (SW), Wasted (W), Normal (N), Overweight (OW), and Obese (O). The second data is the summary of Grade 1 to 4 pupils on the Reading ability whether a child belongs to frustration, instructional and independent.

Statistical Treatment of Data

The results were analyzed and interpreted using the treatment as follows:

Mean. This was used to determine the level of nutritional status and reading ability of indigenous pupils.

Analysis of Variance. This was employed to test the significant of the difference in the means between two or more groups in the study; this was used to analyze the significant differences in the nutritional status and reading ability of pupils when analyzed by gender and type of school.

Pearson r. This was utilized to determine the relationship between the level of nutritional status and reading ability of indigenous pupils.

3 PRESENTATION AND ANALYSIS OF FINDINGS

Level of Nutritional Status of Indigenous Students

Table 2 shows the level of nutritional status of indigenous students in terms of height, weight and Body Mass Index. It is evident from the table that the mean height and weight of the indigenous students indicates below normal nutritional status. This signifies poor nutritional status of the students which could be attributed to their food intake and poor diet.

When measured in terms of Body Mass Index, results also show that indigenous students have a normal nutritional status. This means that the ratio between the weight and height is within the normal range and that the children's weight is normal relative to their height. This further means that the children in the study area are typically considered healthy for the school children.

TABLE 4
LEVEL OF NUTRITIONAL STATUS OF STUDENTS

	Mean	Nutritional Status
Height(cm)	127	Below Normal
Weight(kg)	27	Below Normal
BMI	16	Normal

Level of Reading of Indigenous Students

Table 3 reflects the level of reading of indigenous students. The reading level is a measured based on the Philippine Informal Reading Inventory (Phil- IRI) as an authentic reading assessment tool that attempts to evaluate the reading proficiency level of public elementary pupils.

It is visible from the results that the overall mean is 81 or Frustration Level. This means that on the average the indigenous students in the study area displayed an extreme need for supervision in terms of word recognition and comprehension. Word recognition posted a mean of 89 which referred to as within Frustration Level. Word recognition is defined as the process of determining the meaning and pronunciation of a word. The results indicate that the pupils' level of determining the meaning and pronunciation of a word requires extreme need for supervision. Moreover, comprehension showed a mean of 73 or Instructional Level. This suggests that while students could poorly recognize words, its reading level in terms of comprehension is a step higher to their word recognition skills.

TABLE 5
LEVEL OF READING OF STUDENTS

	Mean	Reading Level
Word Recognition	89	Frustration
Comprehension	73	Instructional
Overall	81	Frustration

Significance of the Correlation Between the Level of Nutritional Status and the Reading Ability of Indigenous Students

Table 4 presents the results on the test of significance of correlation between the level of nutritional status and the Reading Ability of Indigenous Students. It is apparent from the table that the resulting values are less than 1.98.

This means that the data did not provide evidence that shows a significant association between the level of nutritional

status and the reading ability of Indigenous Students. In the context of the study, the height, weight as well as the Body Mass Index of the pupils as the independent variables fail to show enough evidence to show a significant relationship with pupils' word recognition and reading comprehension.

The results further imply that the null hypothesis of no significant relationship between the level of nutritional status and the reading ability of the pupils is accepted.

TABLE 6
TEST ON THE SIGNIFICANCE OF THE CORRELATION BETWEEN THE LEVEL OF NUTRITIONAL STATUS AND THE READING ABILITY OF INDIGENOUS STUDENTS

Dependent Variable		Independent Variable		
		Height	Weight	BMI
Word Recognition	Sig. (2-tailed)	0.82	0.066	0.062
	N	114	114	114
Comprehension	Sig. (2-tailed)	0.248	0.184	0.078
	N	114	114	114

4 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study was conducted to measure the Nutritional Status and Reading Levels of indigenous students in Kapalong specifically among the grades 1 to 4 students of Patel Primary School of Kapalong.

Results showed that:

1. The mean height and weight of the indigenous students indicated below normal nutritional status. In terms of Body Mass Index, results also showed that indigenous students had a normal nutritional status.
2. The level of reading of Indigenous students had overall mean of 81 or Frustration Level. This means that on the average the indigenous students in the study area displayed an extreme need for supervision in their reading skills. Word recognition posted a mean of 89 or Frustration Level. Moreover, comprehension showed a mean of 73 or Instructional Level.

Conclusions

Based on the findings of the study the following conclusions are drawn:

1. The height and weight of the indigenous students is below normal nutritional status. However, in terms of Body Mass Index, children's weight is normal relative to their height and weight.
2. The level of reading of indigenous students is at Frustration Level. Word recognition posted an alarming level which is Frustration level while compared to reading comprehension revealed a slightly higher level which is Instructional Level.
3. There is no significant relationship between the level of nutritional status and the reading levels of the pupils.

Recommendations

In the light of the conclusions the recommendations can be drawn are the following:

1. The Local Government Unit may help implement the importance of nutrition programs and reading centers to the IP communities for the students to become healthy and improved academic performance.
2. The DepEd Officials may continue to provide information on pupils' reading proficiency and shall serve as basis for appropriate interventions. It will help them utilize as basis in drawing up the necessary health programs for every school.
3. The school heads may give a valuable information to enlighten people in authority to monitor and evaluate the nutritional status and reading ability of the students.
4. The classroom teachers may identify what aspect of health condition of students that will affect the pupils reading performance.
5. The parents may monitor the health condition and reading performance of their children.
6. The students may be aware of his nutrition status and reading performance in school.
7. The future researchers may conduct further studies on the nutritional status and reading ability of IP students and that they may be guided by the findings of the study.

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