Vol. 2, No. 7, pp. 244-254, July 2024

# Assessing Teachers' Readiness for Mathematics Instruction: Insights from Student Perspectives

# Nashiera J. Tahamid

Sulu State College, Sulu, Philippines

Author Email: sscgspub@sulustatecollege.edu.ph

Date received: April 28, 2024 Originality: 85%
Date revised: May 12, 2024 Grammarly Score: 90%

Date accepted: May 18, 2024 Similarity: 15%

#### Recommended citation:

Tahamid, N. (2024). Assessing teachers' readiness for mathematics instruction: insights from student perspectives. *Journal of Interdisciplinary Perspectives*, 2(7), 244-254. https://doi.org/10.69569/jip.2024.0165

Abstract. This study evaluated the perceived readiness of Mathematics teachers at Luuk National High School from the perspective of their students. Utilizing a descriptive-correlational research design, the study included 100 student respondents selected through purposive sampling. Key findings are as follows: The majority of the 100 student respondents are female, within the typical age range for junior high school, and evenly distributed across the four grade levels. Their parents generally have average educational attainment and low-income levels. Students perceive their teachers as frequently prepared to teach Mathematics across three main areas: understanding of student needs in Mathematics, strategies for engaging students, and the implementation of instructional practices. No significant differences were observed in perceived teacher readiness based on students' age, gender, parental education, or family income, except grade level. There is a significant positive correlation among the subcategories of teacher readiness, except between understanding student needs in Mathematics and engagement strategies. The study offers several recommendations: School administrators should enhance support and resources for Mathematics teachers through professional development, mentoring, feedback, and recognition. Mathematics teachers are encouraged to deepen their understanding of student needs, refine their instructional strategies, and collaborate with colleagues to share best practices. Parents should actively support their children's Mathematics education, especially given the low income and educational levels within the community. Students should value and leverage the readiness and resources provided by their teachers. Future research should investigate additional factors influencing teacher readiness, such as school culture, curriculum, assessment methods, and technological integration.

**Keywords:** Teachers' readiness; Mathematics teaching; Mathematics knowledge; Instructional practices.

#### 1.0 Introduction

Being a teacher in a public school has several challenges. Numerous tasks need to be completed. Completing paperwork is one thing; delivering high-quality instruction is quite another. This study examines how students perceive their teachers' preparedness to teach mathematics. Teachers in elementary schools need to be proficient in the fundamentals of science, math, reading, and social studies. High school instructors need to be extremely knowledgeable about their field of specialization because they typically only focus on one or two subjects. Teachers must understand how kids learn as well (Deal, 2022).

While the mastery of Mathematics is far-fetched, learning some of its basic concepts is beyond someone's reach (Talikan, 2021). The issues facing instructors in the twenty-first century are growing exponentially, even with the rising importance that Information and Communications Technology (ICT) gained in the teaching and learning of mathematics in the last quarter of the twentieth century. Instructors now have to deal with a generation of pupils that grew up in a digital age, using a variety of gadgets and having access to the internet from a young age (Sanchez et al., 2020).

Education is essential to the growth of individuals and society as a whole, and mathematics is a cornerstone of the academic domain (Talikan, 2024). In addition to imparting knowledge, teachers are now expected to support their students' holistic development, which includes developing digital literacy. This concept has multiple definitions, some of which connect it to other forms of literacy including media literacy, data literacy, reading literacy, or mathematics literacy (Muniz–Rodriguez et al., 2020).

To effectively target instruction toward kids' learning requirements, teachers must be aware of the distinct skills that each child brings to the classroom. Lesson planning should take into account students' medical and/or learning needs, and the teacher should have an updated record-keeping system. An evaluation of the pupils' cognitive growth is made by the teacher (Perth, 2022). Educators must be aware of factors including a student's variances in appearance, IQ, perception, gender, ability, and learning style. Taking into account the specific variations of each student can help plan an efficient and fruitful learning and teaching process (Dunn, 2023).

Based on the initial review of the literature, it was found that there is a limited study conducted on this topic. Thus, this study investigated the perception of the students on the teachers' readiness towards teaching mathematics at Luuk National High School.

# 2.0 Methodology

# 2.1 Research Design

This study utilized a descriptive-correlational research design to gather and analyze quantifiable data from a sample population. Descriptive-correlational research is effective for identifying patterns, connections, and trends over time using statistical analysis of data obtained from surveys, polls, and experiments (Kohn, 2023). Surveys, in particular, are a quantitative method for collecting information from respondents by asking structured questions (Braun, 2022).

#### 2.2 Research Participants

The study was conducted at Luuk National High School in the Sulu II District, which has 26 faculty members and a total enrollment of 2,360 students across all grade levels. Purposive sampling was employed to select participants for the study. This non-probability sampling technique relies on the researcher's judgment to choose participants who are most likely to provide relevant and reliable information. It is also known as judgmental or expert sampling (Braun, 2022).

#### 2.3 Research Instrument

The research instrument consisted of two parts. Part I collected demographic information from the respondents, including their name (optional), age, gender, grade level, parents' highest educational attainment, and parents' average monthly income. Part II comprised 10 statements designed to gauge students' perceptions of their teachers' readiness to teach Mathematics. These statements assessed three areas: teachers' knowledge of students in Mathematics, strategies for engaging students, and application of instructional practices. Respondents rated each statement on a five-point scale ranging from "always ready" to "not ready."

# 2.4 Data Gathering Procedure

The survey questionnaire was distributed to the selected respondents and subsequently collected by the researcher.

# 2.5 Data Analysis

The data were analyzed using both descriptive and inferential statistical tools. Descriptive statistics included frequency, percentage, mean, and standard deviation. Inferential statistics involved the use of t-tests, Analysis of Variance (ANOVA), and Pearson product-moment correlation to determine relationships and differences within the data.

#### 3.0 Results and Discussion

# 3.1 Demographic Profile of Respondents

Table 1. Descriptive statistics of student respondents' demographic profile

Table 1. Descriptive statistics of student 1	FREQUENCY	0 1 1
Age		
13 years old and below	34	34%
14-15 years old	26	26%
16-17 years old and above	35	35%
18 years old and above	5	5%
Gender		
Male	33	33%
Female	67	67%
Grade Level		
Grade 7	25	25%
Grade 8	25	25%
Grade 9	25	25%
Grade 10	25	25%
Parents' Highest Educational Attainment		
No formal education	29	29%
Elementary graduate	38	38%
High school graduate	20	20%
College Graduate	13	13%
Parents' Average Monthly Income		
5,000 and below	68	68%
5,001 to 10,000	20	20%
10,001 to 15,000	7	7%
15,001 and above	5	5%

Table 1 presents the demographic profile of the student-respondents in Luuk National High School in terms of age, gender, grade level, parents' educational attainment and parents' average monthly income. The table indicates that out of 100 student-respondents, the majority are either 13 years old and below or 16 to 17 years old, with 34% (34) and 35% (35) respectively, followed by 14 to 15 years old, with 26% (26). Only a few are 18 years old and above, with 5% (5) only. This implies that most of the student-respondents are in the typical age range for junior high school and that there are fewer students who are older than the average. The table also indicates that out of 100 student-respondents, it highly concentrated toward females who make up 67% (67), while males account for 33% (33). This implies a higher participation or representation of female student-respondents in the surveyed group. Moreover, out of 100 student-respondents, they are evenly distributed across the four grade levels, with each grade level having 25 respondents or 25% of the total. This means that the sample is balanced and representative of the population of the school. Furthermore, the table indicates that out of 100 studentrespondents, the majority of the student-respondents' parents are elementary graduates who make up 38%, followed by those with no formal education (29%), high school graduates (20%), and college graduates (13%). This means that most of the student-respondent' parents have not completed secondary or tertiary education which may influence their perceptions on teachers' readiness towards teaching Mathematics. In addition, the table indicates that out of 100 student-respondents, the majority of the student-respondents' parents have an average monthly income of 5,000 and below, followed by those parents earning from 5,001 to 10,000. Only a few parents are earning 10,001 to 15,000, with 7% (7), and 15,001 and above, with 5% (5). This implies that most of the students come from households with a monthly income of 5,000 and below, which belong to the low-income class. In summary, of the 100 student-respondents, mostly are female, in the typical age range for junior high school, and evenly distributed across the four grade levels. Their parents have average levels of educational attainment and low level of income.

# 3.2 The Extent of Teachers' Readiness Towards Teaching Mathematics as Perceived by Students In terms of Knowledge of the Students

Table 2 shows the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students in the context of Knowledge of the Students in Mathematics. The result shows that the total mean score is 4.458, which indicates an overall rating of "Often Ready". This means that on average, the student-respondents' perceptions are that their teacher's knowledge of the students in mathematics is often ready for the extent of teachers' readiness towards teaching Mathematics. The total standard deviation is 0.5564,

which indicates that there is some variation among the student respondents in their agreement with the statements.

Table 2. Descriptive statistics of teacher's readiness towards teaching mathematics in terms of knowledge of the students

INDICATORS	MEAN	SD	RATING
1. Our teacher knows how each topic will be taught.	4.69	0.748	Always Ready
2. Our teacher is very knowledgeable about the subject.	4.61	0.815	Always Ready
3. Our teacher makes productive use of assessment.	4.25	0.947	Often Ready
4. Our teacher has a mastery of the content of the subject.	4.58	0.831	Always Ready
5. Our teacher has a thorough knowledge and understanding of his/her area of specialty.	4.53	0.881	Always Ready
6. Our teacher tries his/her best to apply the lesson in real-life situations.	4.22	0.970	Often Ready
7. Our lessons are well organized and in sequence.	4.55	0.857	Always Ready
8. Our teacher connects the subject with the student's previous knowledge.	4.04	1.100	Often Ready
9. Our teacher is effective and efficient at organizing the subject matter.	4.49	0.948	Often Ready
10. Our teacher has a deep understanding of the subject he/she teach.	4.62	0.826	Always Ready
Total	4.46	0.556	Often Ready

Legend: 4.50-5.00 = Always Ready (AR), 3.50-4.49 = Often Ready (OR), 2.50-3.49 = Sometimes Ready (SR), 1.50-2.49 = Rarely Ready (RR), 1.00-1.49 = Not Ready (NR)

The mean scores indicate that student-respondents perceive that their teacher is often ready to make productive use of assessment, to apply the lesson in real-life situations, to connect the subject with the student's previous knowledge, and to organize the subject matter. They also perceive that their teacher is always ready to teach the topic, organizes the lesson well, is knowledgeable about the topic, has a mastery of the content of the subject, has a thorough knowledge of his/her area of specialty, and has a deep understanding of the subject he/she teaches. The highest mean score is 4.69, which corresponds to the statement "Our teacher knows how each topic will be taught." This implies that the student-respondents think that their teachers know how to teach each topic effectively. The lowest mean score is 4.04, which corresponds to the statement "Our teacher connects the subject with the student's previous knowledge." This implies that the student-respondents think that their teachers are often ready to connect the subject with their previous knowledge.

#### In terms of Strategies for Dealing with Students

Table 3. Descriptive statistics of teacher's readiness towards teaching mathematics in terms of strategies in dealing with the students

INDICATORS	MEAN	SD	RATING
1. Our teacher maintains an updated student records.	4.27	0.920	Often Ready
2. Our teacher incorporates medical and/or learning needs into lesson plans.	3.43	0.844	Sometimes Ready
3. Our teacher creates an assessment of the student's level of cognitive development.	3.73	1.221	Often Ready
4. Our teacher considers the individual differences of the students.	3.54	1.480	Often Ready
5. Our teacher takes time to know the learning styles of the students.	3.49	1.432	Sometimes Ready
6. Our teacher takes time to learn the cultural background of the students.	3.70	1.078	Often Ready
7. Our teacher demonstrates a genuine interest in learning about each student.	4.07	1.148	Often Ready
8. Our teacher helps establish trust and form a bond with the students.	4.06	1.196	Often Ready
9. Our teacher provides an equitable learning environment for all students.	3.97	1.210	Often Ready
10. Our teacher keeps a subject knowledge notebook for reference purposes.	4.52	0.904	Always Ready
Total	3.88	0.501	Often Ready

Table 3 shows the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students in the context of strategies for dealing with the students. The result shows that the total mean score is 3.878, which indicates an overall rating of "Often Ready". This means that on average, the student-respondents' perceptions are that their teacher's strategies for dealing with students are often ready for the extent of teachers' readiness towards teaching Mathematics. The total standard deviation is 0.5008, which indicates that there is some variation among the student-respondents in their interest level.

The mean scores indicate that student-respondents perceive that their teacher is often ready to maintain an updated student records, to create an assessment of student's level of cognitive development, to consider individual differences of the students, to take time to learn the cultural background of the students, to demonstrates genuine interest in learning about each student, to helps establish trust and form a bond with the students, and to provide an equitable learning environment for all students. They also perceive that their teacher is always ready to keep a subject knowledge notebook for reference purposes, but sometimes ready to incorporate medical and/or learning needs into lesson plans, and to take time to know the learning styles of the students. The

highest mean score is 4.52, which corresponds to the statement "Our teacher keeps a subject knowledge notebook for reference purposes." This implies that the student-respondents think that their teacher is always ready to update and review his/her subject knowledge. The lowest mean score is 3.43, which corresponds to the statement "Our teacher incorporates medical and/or learning needs into lesson plans." This implies that the student-respondents think that their teacher is sometimes ready to accommodate the diverse needs of the students.

#### In terms of Application of Instructional Practices

Table 4. Descriptive statistics of teacher's readiness towards teaching mathematics in terms of application of instructional practices

INDICATORS	MEAN	SD	RATING
1. Our teacher creates an effective teaching and learning environment for all students.	4.07	1.191	Often Ready
<ol><li>Our teacher has a specialized knowledge in creating effective teaching and learning environments for all students.</li></ol>	4.53	0.771	Always Ready
3. Our teacher has a mastery of the facts, theories, and principles in Mathematics.	4.37	0.906	Often Ready
4. Our teacher knows the principles of effective teaching and training practices.	4.52	0.858	Always Ready
5. Our teacher focuses on the prior experiences and knowledge of students.	2.86	1.700	Sometimes Ready
6. Our teacher focuses on the student learning styles and the developmental levels of the learner.	3.38	1.384	Sometimes Ready
7. Our teacher actively listens by encouraging students to ask open-ended questions.	4.73	0.694	Always Ready
8. Our teacher ensures that students learn academic content.	4.57	0.844	Always Ready
<ol><li>Our teacher facilitates discussions in the Mathematics classroom based on the thinking of students.</li></ol>	4.47	0.937	Often Ready
10. Our teacher gets the student's full attention before starting the lesson.	4.72	0.668	Always Ready
Total	4.22	0.392	Often Ready

Table 4 shows the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students in the context of the Application of Instructional Practices. The result shows that the total mean score is 4.222, which indicates an overall rating of "Often Ready". This means that on average, the student-respondents' perceptions are that their teacher's application of instructional practices is often ready for the extent of teachers' readiness towards teaching Mathematics. The total standard deviation is 0.392, which indicates that there is less variation among the student respondents in their interest level.

The mean scores indicate that student-respondents perceive that their teacher is often ready to create effective teaching and learning environments for all students, facilitate discussions in Mathematics classroom based on the thinking of students, has a mastery of the facts, theories, and principles in Mathematics. They also perceive that their teacher is always ready to listen by encouraging students to ask open – ended questions, to get the students full attention before starting the lesson, to ensure that students learn academic content, has a specialized knowledge in creating effective teaching and learning environments for all students, has knowledge on the principles of effective teaching and training practice, but sometimes ready to focus on the prior experiences and knowledge of students, and on the student learning styles and the developmental levels of the learner. The highest mean score is 4.73, which corresponds to the statement "Our teacher actively listens by encouraging students to ask open – ended questions." This implies that the student-respondents think that their teacher is always ready to engage the students in meaningful dialogue and inquiry. The lowest mean score is 2.86, which corresponds to the statement "Our teacher focuses on the prior experiences and knowledge of students." This implies that the student-respondents think that their teacher is sometimes ready to connect the new content with the existing knowledge of the students.

# 3.3 Difference in Teachers' Readiness Towards Teaching Mathematics when According to Age Group

Table 5 presents the difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students when they are grouped according to age. The variables include Knowledge of the Students in Mathematics, Strategies for dealing with Students, and Application of Instructional Practices. With the exception of students' knowledge, the table demonstrate that all F-values and probability values are not significant at alpha 0.05. Thus, it follows that the perceptions of student respondents aged 13 and below on the extent of these variables do not differ from those of student respondents aged 14–15, 16-17, and 18 and above, or vice versa.

Table 5. Difference in teachers' readiness towards teaching mathematics when grouped according to age (ANOVA)

Sources of Variation		Sum of Squares	Df	Mean Square	F	Sig.	Description
Knowledge of the Students in	Between	5.853	3	1.951	7.555*	.000	Significant
Mathematics	Groups						o .
	Within Groups	24.790	96	.258			
	Total	30.644	99				
Strategies for Dealing with Students	Between	.878	3	.293	1.174	.324	Not
	Groups						Significant
	Within Groups	23.953	96	.250			O
	Total	24.832	99				
Application of Instructional Practices	Between	.965	3	.322	2.168	.097	Not
	Groups						Significant
	Within Groups	14.247	96	.148			Ü
	Total	15.212	99				

<sup>\*</sup>Significant at alpha 0.05

However, the perceptions of student-respondents aged 14-15 differ from those of student-respondents aged 13 and below, and 16-17, or vice versa when it comes to knowledge of the students in Mathematics, as shown in Table 6. This implies that the student-respondents perceive the extent of teachers' readiness towards teaching Mathematics at Luuk National High School in the same way regardless of their age, except for knowledge of the students in Mathematics. As a result, the hypothesis that reads, "when students are grouped according to age, there is no significant difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students," is accepted.

Table 6. Multiple comparisons of teachers' readiness towards teaching Mathematics by age (Tukey test)

Dependent Variable	(I) Grouping by Age	(J) Grouping Age	Mean Difference (I - J)	Std. Error	Sig.
		13 years old and below	39186*	.13239	.020
Knowledge of the Students in Mathematics	14-15 years old	16-17 years old	62396*	.13157	.000
-	-	18 years old and above	43538	.24815	.302

<sup>\*</sup>The mean difference is significant at the 0.05 level

When data are grouped according to students'/respondents' demographic profile in terms of age, a Post Hoc Analysis using the Tukey test is performed to determine which groups classified according to age have different levels of mean in the extent of teachers' readiness to teach mathematics. Regarding the student's mathematical knowledge, the data indicates that the mean difference between the 14 15 years old student respondents and the 13-17 years old student respondents was -.39186\* with a Standard Error of .13239 and a p-value of .020, and the mean difference between the 16-17 years old student respondents and the Standard Error of .13157 and a p-value of .000, both significant at alpha 0.05.

# According to Gender

Table 7. Difference in teachers' readiness towards teaching mathematics when grouped according to gender (T-test)

Variables	Grouping	Mean	SD	Mean Difference	Т	Sig.	Description
Knowledge of the Students in	Male	4.32	0.58	-0.204	-1.743	0.084	Not Significant
Mathematics	Female	4.53	0.54				_
Strategies for Dealing with Students	Male	3.92	0.45	.0554	.5190	0.605	Not Significant
	Female	3.86	0.53				Ü
Application of Instructional Practices	Male	4.23	0.36	.0124	0.148	0.883	Not Significant
••	Female	4.22	0.41				Ü

<sup>\*</sup>Significant at alpha 0.05

Table 7 presents the difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students when they are grouped according to age. The variables include Knowledge of the Students in Mathematics, Strategies for dealing with Students, and Application of Instructional Practices. The table shows that the mean difference and probability values for all variables are not essential at alpha 0.05. This means that the extent of these variables does not affect the perceptions of male and female student-respondents differently. This implies that the student-respondents perceive the extent of teachers' readiness

towards teaching Mathematics at Luuk National High School in the same way regardless of their gender. Thus, the hypothesis that reads, "when students are grouped according to gender, there is no significant difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students." is accepted.

#### According to Grade Level

Table 8. Difference in teachers' readiness towards teaching mathematics when grouped according to grade level (ANOVA)

Sources of Variation		Sum of Squares	df	Mean Square	F	Sig.	Description
Knowledge of the Students in	Between	2.101	3	.700	2.356	.077	Not
Mathematics	Groups						Significant
	Within Groups	28.542	96	.297			
	Total	30.644	99				
Strategies for Dealing with Students	Between	4.252	3	1.417	6.611*	.000	Significant
	Groups						
	Within Groups	20.580	96	.214			
	Total	24.832	99				
Application of Instructional Practices	Between	1.669	3	.556	3.944*	.011	Significant
	Groups						O
	Within Groups	13.542	96	.141			
	Total	15.212	99				

Table 8 presents the difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students when they are grouped according to grade. The variables include Knowledge of the Students in Mathematics, Strategies for dealing with Students, and Application of Instructional Practices. The table shows that the F-values and probability values for all variables, except for the knowledge of the students, are significant at alpha 0.05. This means that the perceptions of grade 8 student-respondents on the extent of these variables differ from those of grade 7, grade 9, and grade 10 student-respondents, or vice versa, as shown in Table 8. However, the perceptions of student-respondents do not differ when it comes to knowledge of the students in Mathematics. This implies that the student-respondents perceive the extent of teachers' readiness towards teaching Mathematics at Luuk National High School differently depending on their grade level, except for knowledge of the students in Mathematics. Accordingly, the hypothesis that reads, "When students are grouped according to grade level, there is no significant difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students." is rejected.

Table 9. Multiple comparisons of teachers' readiness towards teaching Mathematics by grade level (Tukey test)

Dependent Variable	(I) Grouping by Age	(J) Grouping Age	Mean Difference (I - J)	Std. Error	Sig.
Strategies for Dealing with the	Grade 8	Grade 7	.38800*	.13096	.020
Students		Grade 9	.16800	.13096	.576
		Grade 10	.54000*	.13096	.000
	Grade 9	Grade 7	.22000	.13096	.340
		Grade 8	16800	.13096	.576
		Grade 10	.37200*	.13096	.028
Application of Instructional Practices	Grade 8	Grade 7	.30800*	.10623	.024
		Grade 9	.12000	.10623	.672
		Grade 10	.30000*	.10623	.029

<sup>\*</sup>The mean difference is significant at the 0.05 level

When data are grouped according to students' demographic profile in terms of grade level, a Post Hoc Analysis using the Tukey test (Table 9) is performed to determine which groups, classified according to grade level, have different levels of mean in the extent of teachers' readiness to teach mathematics. On strategies dealing with students, it demonstrates that, compared to grade 7 student respondents, grade 8 student respondents acquired a mean difference of .05400\* with a standard error of .13096 and p-value of .000, and a mean difference of .38800\* with the standard error of .13096 and p-value of .020, over grade 10 student-respondents, which are both significant at alpha 0.05. It also shows that grade 9 student-respondents obtained a mean difference of .37200\* with a Standard Error of .13096 and p-value of .000 over grade 10 student-respondents which is significant at alpha

0.05. On application of instructional practices, it shows that grade 8 student-respondents obtained the mean difference of  $.30000^{\circ}$  with a Standard Error of .10623 and p-value of .029 over grade 10 student-respondents, which is significant at alpha 0.05.

### According to Parents' Highest Educational Attainment

**Table 10.** Difference in teachers' readiness towards teaching mathematics when grouped according to parents' highest educational attainment (ANOVA)

Sources of Variation		Sum of Squares	df	Mean Square	F	Sig.	Description
Knowledge of the Students in Mathematics	Between Groups	.161	3	.054	.169	.917	Not Significant
	Within Groups	30.482	96	.318			
	Total	30.644	99				
Strategies dealing with Students	Between Groups	.481	3	.160	.632	.596	Not Significant
	Within Groups	24.351	96	.254			_
	Total	24.832	99				
Application of Instructional Practices	Between Groups	.380	3	.127	.819	.486	Not Significant
	Within Groups	14.832	96	.154			
	Total	15.212	99				

Table 10 presents the difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students when they are grouped according to parents' highest educational attainment. The variables include Knowledge of the Students in Mathematics, Strategies dealing with Students, and Application of Instructional Practices. The table shows that the F-values and probability values for all variables are not significant at alpha 0.05. This means that the perceptions of student-respondents whose parents are college graduates on the extent of these variables do not differ from those whose parents are elementary graduates, high school graduates, college graduates, and have no formal education, or vice versa. This implies that the student-respondents perceive the extent of teachers' readiness towards teaching Mathematics at Luuk National High School in the same way regardless of their parents' highest educational attainment. As a result, the hypothesis that reads, "When students are grouped according to parents' highest educational attainment, there is no significant difference in the extent of the teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students." is accepted.

#### According to parents' average monthly income

**Table 11.** Difference in teachers' readiness towards teaching mathematics when grouped according to parents' average monthly income (ANOVA)

Sources of Variation		Sum of Squares	df	Mean Square	F	Sig.	Description
Knowledge of the Students in	Between Groups	.161	3	.054	.169	.917	Not Significant
Mathematics	Within Groups	30.482	96	.318			· ·
	Total	30.644	99				
Strategies for Dealing with Students	Between Groups	.481	3	.160	.632	.596	Not Significant
	Within Groups	24.351	96	.254			_
	Total	24.832	99				
Application of Instructional Practices	Between Groups	.380	3	.127	.819	.486	Not Significant
	Within Groups	14.832	96	.154			-
	Total	15.212	99				

Table 11 presents the difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students when they are grouped according to parents' average monthly income. The variables include Knowledge of the Students in Mathematics, Strategies dealing with Students, and Application of Instructional Practices. The table shows that the F-values and probability values for all variables are not significant at alpha 0.05. This means that the perceptions of student-respondents whose parents' average monthly income ranges from 5,000 and below on the extent of these variables do not differ from those whose parents' average monthly income ranges from 5,001 to 10,000, 10,001 to 15,000, and 15,001 and above, or vice versa. This implies that the student-respondents perceive the extent of teachers' readiness towards teaching Mathematics at Luuk National High School in the same way regardless of their parents' average monthly income. Thus, the

hypothesis that reads, "When students are grouped according to parents' average monthly income, there is no significant difference in the extent of teachers' readiness towards teaching Mathematics at Luuk National High School as perceived by the students." is accepted.

#### 3.4 Relationship among Sub-Categories Subsumed under Teachers' Readiness

Table 12 presents the correlation among the sub-categories subsumed under the extent of extent of the teachers' readiness towards teaching Mathematics as perceived by the students. The table shows that the computed Pearson correlation Coefficients (Pearson r) between these variables, except between Knowledge of the Students in Mathematics and Strategies dealing with Students, are significant at alpha 0.05.

Table 12. Pearson correlation analysis among sub-categories subsumed under teachers' readiness

Variables		Родисом и	Sig.	N	Description
Dependent	Independent	Pearson r		N	Description
Knowledge of the Students in	Strategies for Dealing with Students	.121	.229	100	Low
Mathematics	Application of Instructional Practices	.384*	.000	100	Moderate
Strategies for Dealing with	Application of Instructional Practices	.453*	.000	100	Moderate
Students	**				

<sup>\*</sup>The correlation coefficient is significant at alpha .05

Specifically, the degree of correlations among the sub-categories subsumed under the extent of teachers' readiness towards teaching Mathematics as perceived by the students are: a) moderate positive correlations between Knowledge of the Students in Mathematics and Application of Instructional Practices, and b) moderate positive correlations between Strategies dealing with Students and Application of Instructional Practices.

This means that as one variable increases, the other variable also tends to increase, and that these relationships are not likely to be random. The strongest correlation is between Strategies dealing with Students and Application of Instructional Practices (r = 0.453, p < 0.01), which implies that student-respondents perceive their teachers as more ready to apply effective instructional practices when they use appropriate strategies to deal with different student needs and situations.

The weakest correlation is between Knowledge of the Students in Mathematics and Application of Instructional Practices (r = 0.384, p < 0.01), which implies that student-respondents perceive their teachers as less ready to apply effective instructional practices when they have more knowledge of the students' prior knowledge and needs in mathematics. The other correlations are not significant which means that there is no linear relationship between the variables. As a result, the hypothesis is that claims, "There is no significant correlation among the subcategories subsumed under the extent of teachers' readiness towards teaching Mathematics as perceived by the student," is rejected.

#### 4.0 Conclusion

Student-respondents are mostly typical junior high school students who come from low-income families with parents who are elementary graduates. Teachers at Luuk National High School have a high level of readiness for teaching Mathematics, as perceived by the students. The student-respondent perceive that their teachers are able to demonstrate their knowledge of the students' prior knowledge, interests, abilities, and needs in mathematics, use appropriate strategies to deal with different student needs and situations, and apply effective instructional practices to enhance student learning. The student-respondents' age, gender, parents' highest educational attainment, and parents' average monthly income have no significant influence on how they perceive the extent of teachers' readiness towards teaching Mathematics, except for their grade level. Teachers' knowledge of the students in mathematics and application of instructional practices, and strategies dealing with students and application of instructional practices are interrelated and influence each other in the readiness towards teaching mathematics. the only exception is knowledge of the students in mathematics, which do not show a significant relationship with strategies dealing with students. The findings of this study suggest various ways to improve. Teachers can benefit from professional development focused on differentiated instruction to meet the varying needs of students within a grade level. Additionally, incorporating student feedback on specific topics can help teachers identify areas for improvement. School administrators can target professional development programs based on student perceptions and consider implementing a peer coaching program to share best practices. Furthermore, curriculum developers can incorporate strategies for addressing diverse learning needs. Future

research should explore the role of parental involvement and conduct longitudinal studies to establish the connection between perceived teacher readiness and student achievement. By implementing these recommendations, schools can create a more positive and effective learning environment for all mathematics students.

#### 5.0 Contributions of Authors

The author indicates an equal contribution to each part. The author examined and approved the completed work.

# 6.0 Funding

This work received no specific grant from any funding agency

#### 7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper

# 8.0 Acknowledgment

Foremost, the researcher would like to express her sincere gratitude to her adviser Mr. Ricky S. Morales Jr., MA-MATH for the continuous support of my research, for his patience, motivation, enthusiasm, and immense knowledge. His guidance helped her in all the time of research and writing of this thesis. She could not have imagined having a better adviser for her thesis study.

Besides heradviser, the researcher would like to thank the rest of the thesis committee: The SUC President II, Prof. Charisma S. Ututalum Ed.D., CESE, Asso. Prof. Masnona A. Asiri, DPA, Dean of the Graduates Studies and at the same time Chairman of the Defense Panel and Asso. Prof. Nelson U. Julhamid, Ph. D., Vice President for the Academic Affairs for their encouragement, insightful comments, and for their constructive suggestions and recommendations leading to the success of this study.

Big thanks to her mentor Mr. Valentino Ting, MA-MATH, for his unwavering guidance and support throughout my master's program. His expertise and encouragement were instrumental in my completing this research and thesis. Sincerely appreciated.

The researcher extends her gratitude to her family, especially her parents, and friends whose love and support made this endeavor achievable. Their unwavering encouragement was key to my success. Also, big thanks to all who participated in her study! Their willingness to share their experiences made this work possible.

Finally, the researcher would like to thank ALLAH, for letting her through all the difficulties. She has experienced your guidance day by day. You are the one who let her finish her degree. She will keep on trusting you for her future.

# 9.0 References

ADESQ. (2015). Targeted competencies in graduate programs.

Airy, D. (2017). Teacher readiness definition. Law Insider. Retrieved from https://www.lawinsider.com/teacher

Barr, N. (2019). Instructional strategies for the classroom. Graduate Programs. Retrieved from https://www.graduateprogram.org

Braun, C. (2022). Research design: What it is, elements and types. QuestionPro. Retrieved from https://www.questionpro.com/blog

Brown, P. C., Roediger, H. L., & McDaniel, M. A. (2015). Make it stick: The science of successful learning. https://doi.org/10.2307/j.ctt6wprs3

Burger, E. B., & Starbird, M. (2015). The 5 elements of effective thinking. Princeton, NJ: Princeton University Press. https://doi.org/10.1515/9781400844562

Byrnes, J. (2015). Role of conceptual knowledge in mathematics procedural learning.

Carraso, L., Lanos, M. G., & Teodora, C. (2019). What is instructional practices? IGI Global. Retrieved from https://www.igi-global.com/leading

Cross, S. (2017). The influence of teacher readiness to learning achievement of students. SciTePress. Retrieved from https://www.scitepress.org/press

Cross, S. (2020). The influence of teacher readiness to learning achievement of vocational students. SciTePress. Retrieved from https://www.scitepress.org

Deal, N. (2022). What skills, knowledge, and experiences are needed to become a teacher? Chron. Retrieved from https://work.chron.com/skills-knowledge

Donaghy, L. (2019). Subject knowledge: 10 things every teacher-educator should know. Teach First. Retrieved from https://www.teachfirst.org.uk/blog

Dunn, E. (2017). Learner readiness: Why and how should they be ready? ERIC. Retrieved from https://files.eric.ed.gov/fulltext

Dunn, E. (2023). Identifying the individual differences among students. ERIC. Retrieved from https://eric.ed.gov

Enid, C. (2016). How does a teacher demonstrate knowledge of students? Deerfield. Retrieved from https://www.deerfield.k12.us

Farr, S. (2022). Teacher readiness definition. Law Insider. Retrieved from https://www.lawinsider.com/teach

Fort, C. (2021). The Institute for Learning and Teaching, Colorado 80521, 801 Oval Drive.

Frost, T. (2023). Teacher readiness definition. Law Insider. Retrieved from https://www.lawinsider.com/teach

Gross, E. (2018). Response: Building relationships with students is the most important thing a teacher can do. EdWeek. Retrieved from https://www.edweek.org

Hurst, T. (2018). Improving students' relationships with teachers. EdWeek. Retrieved from https://www.edweek.org

- Janiola, F. R. (2019). The readiness of mathematics teachers in teaching K to 12: Spiral approach. Holy Name University, Tagbilaran City, Bohol, Philippines.
- Joust, P. (2022). Instructional practices. Texas Education Agency. Retrieved from https://tea.texas.gov/system
- Knorr, Q. (2018). Knowledge, for, in, and of practice. Galileo. Retrieved from https://inquiry.galileo.org/knowledge
- Kohn, D. (2023). Descriptive research: Design, methods, examples, and FAQs. Dovetail. Retrieved from https://dovetail.com/research/design
- Kolbi, D. (2015). Experiential learning: Experience as the source of learning and development.
- Laal, M. (2015). Lifelong learning: Why do we need it?
- Lear, N. (2023). Learning profiles: What great teachers should know about their students. TeachThought. Retrieved from https://www.teachthought.com
- Lear, P. (2023). Characteristics of highly effective teaching and learning (CHETL). Retrieved from https://education.ky.gov/pages Magnusson, N., Krajcik, C., & Borko, P. (2015). Pedagogical content knowledge.
- Manasia, L., & Teodora, C. (2020). Teaching readiness model: Conceptualization of professional knowledge, professional practice, and self-management. ResearchGate. Retrieved from https://www.researchgate.net
- Manasia, L., Lanos, M. G., & Teodora, C. (2019). Pre-service teacher preparedness for fostering education for sustainable development: An empirical analysis of central dimensions of teaching readiness. Bucharest, Romania.
- McGill University. (2020). Subject knowledge/Skillsets. FutureLearn. Retrieved from https://www.futurelearn.com
- Muñiz-Rodríguez, L., Rodríguez-Muñiz, L. J., & Alsina, Á. (2020). Deficits in the statistical and probabilistic literacy of citizens: Effects in a world in crisis. Mathematics, 8(11), 1872. https://doi.org/10.3390/math8111872
- Penn, R. (2017). The importance of knowledge for teaching. The Education Hub. Retrieved from https://theducationhub.org
- Persaud, C. (2023). 25 effective instructional strategies for educators. Top Hat. Retrieved from https://tophat.com/blog/instruction
- Perth, M. (2022). The importance of teacher knowledge of individual students' skills (KISS). CEPA. Retrieved from https://cepa.stanford.edu/content
- Rittle-Johnson, B. (2015). Conceptual and procedural knowledge of mathematics: Does one lead to the other?
- Sánchez Prieto, J., Trujillo Torres, J. M., Gómez García, M., & Gómez García, G. (2020). Gender and digital teaching competence in dual vocational education and training. Education Sciences, 10(3), 84. https://doi.org/10.3390/educsci10030084
- Staake, J. (2023). 30 instructional strategies examples for every kind of classroom.
- Talikan, A. (2021). Effectiveness of back-to-basic mathematics on physics performance of the students in Mindanao State University-Sulu in the Southern Philippines. LC International Journal of STEM, 2(4), 7-12. https://doi.org/10.5281/zenodo.6412425
- Talikan, A. (2024). Academic resilience in mathematics among senior high school students in Mindanao State University-Sulu. Journal of Interdisciplinary Perspectives, 2(6), 32-42. https://doi.org/10.5281/zenodo.10987904
- Teaching Effectiveness Framework. (2022). Knowledge of instructional practices.
- Tramp, R. (2022). Laws of learning no instructional designer can afford to ignore. Shift Learning. Retrieved from https://www.shiftlearning.com/bid
- UNESCO. (2022). Content knowledge. IIEP Policy Toolbox.
- Viquez, H. A. (2022). E-learning readiness of teachers in the new normal education. International Journal of Evaluation and Research in Education. Retrieved from https://ijere.iaescore.com/view