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Research Paper

Enhancing Readiness and Mathematics Performance in Face-to-Face Learning Among Grade 7 Students: A Descriptive-Correlational Study

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Abstract

This study aimed to determine the relationship between the level of readiness and mathematics performance in face-to-face learning among Grade 7 learners at Balibago Integrated High School. This study employed a descriptive-correlational design to determine the correlation between the two variables under consideration. A stratified proportionate random sampling technique was used to determine the sample from the population of learners, and the number of samples was established using the Cochran formula. The study employed a researcher-designed questionnaire to assess learners' readiness levels and mathematics performance, which was verified by a panel of experts in the field. The questionnaire on readiness focused on measuring students' cognitive, social, physical, and emotional aspects. The gathered data were evaluated using frequency counts and percentages, mean, standard deviation, Pearson's r, and hierarchical multiple regression. Based on the findings, it showed that learners' levels of cognitive, social, and physical readiness were high but only moderate emotionally. Nonetheless, students' mathematics performance was poor because the computed mean fell within a low range. Thus, the findings revealed a strong and positive correlation between students' readiness and mathematics performance, with a p-value of 0.007, which rejected the null hypothesis. However, the findings revealed that there was no substantial moderating influence on the profile of learners' mathematics performance about their readiness, with a p-value greater than .01. In light of this, a learner's level of preparedness in terms of cognitive, social, emotional, and physical factors may have an impact on how well they perform mathematically.

Keywords *Mathematics Performance; Cognitive Readiness; Social Readiness; Emotional Readiness; Physical Readiness;Face-to-Face Learning*

INTRODUCTION

Mathematics is one of the subjects that students have struggled with, as demonstrated by their performance on the teacher's test. It was also evident in the 2018 Programme for International Student Assessment (PISA), where the Philippines was one of the lowest-performing countries.

According to the Department of Education, the promotion rate, repetition rate, dropout rate, and survival rate of grade 6–8 students in Nepal were 90.1, 4.6, 5.3, and 74.6, respectively. These statistics demonstrate Nepal's low educational achievement in both community and institutional schools. As a result, students' poor academic achievement reflects the poor quality of education in Nepal.

On the other hand, the DepEd-National Report of the Philippines revealed that the Philippines came second-to-last among participating countries in the 2018 Programme for International Student Assessment (PISA). This worrying research found that Filipino pupils scored 353 points in mathematics literacy, much lower than the OECD average of 489 points. According to statistics, barely one in every five Filipino pupils, or around 19.7 percent, reached the minimum competency level (Level 2) in mathematics literacy. Moreover, according to the 2015 Review Report on the Philippine Education for All

On the National Achievement Test, while Filipino learners' NAT mean percent score (MPS) has grown during the eight years (2005-2013), it has not yet attained the aim of 75 percent MPS. The elementary level NAT accounts for 6.12% of the target, whereas the secondary level NAT

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accounts for 23.59% of the target.

Out of 6562 students at Balibago Integrated High School, Division of Santa Rosa City, Philippines, 21.38 percent had a math grade lower than 75 in the first quarter, 17.24 percent in the second quarter, 6.52 percent in the third quarter, and 1.28 percent in the fourth quarter last academic year. This can be a result of poor readiness and motivation in attending online classes, and some external factors.

The COVID-19 pandemic has had a significant impact on the educational system. This resulted in a shift in how lessons were delivered, from in-person teaching to online learning, causing challenges for both students and teachers worldwide, not just in the Philippines. Due to the emergence of the COVID-19 pandemic, students' learning styles and approaches may differ from traditional face-to-face learning, which can impact their mathematics performance. The above claims were contradicted by the studies of Capinding (2022), which showed that both pupils performed well in mathematics during the COVID-19 pandemic. Online learning videos and modules are accessible to students at any time and place. From these contradictory assertions, it is essential to understand the level of students' mathematics performance during the COVID-19 pandemic.

On the other hand, most international activities have been put on hold due to the sudden emergence of a new coronavirus, including travel and education. Governments have even been forced to close schools worldwide to stem the disease's spread temporarily. In 185 nations, schools and institutions were shut down, impacting 89.4% of all learners. This crisis may have long-term effects on education, including disruptions of cognitive learning processes, poor motivation, higher dropout rates, increased joblessness, and a trend toward postponing academic sessions.

During the COVID-19 pandemic, the effectiveness and convenience of online learning did not align with reality. Due to the COVID-19 virus, numerous issues have appeared since the advent of online learning. According to reports, 95.2% of students in Padang City, Indonesia, felt the pressure of online learning. Because they do not interact with their peers and teachers in person, students become bored, which results in a decrease in their motivation and concentration. Some students also suffer from mental health problems brought on by changes in the educational system.

Teachers suffered from the drawbacks of online education. Most teachers, especially those from traditional educational backgrounds, are unfamiliar with or unskilled in teaching online. Even though online classes offer learning flexibility, many students and teachers prefer traditional face-to-face discussions. In-person teaching improves interaction and performance between students and teachers.

Fortunately, due to the decline in COVID-19 cases in the Philippines, on July 14, 2022, Vice President and Education Secretary Sara Z. Duterte emphasized that, as of November 2, face-to-face instruction would be introduced across all public and private institutions to mitigate learning loss. The Department of Health and the Inter-Agency Task Force (IATF) have given their approval, along with the new president, Ferdinand Marcos Jr.

To have an effective learning experience, it is crucial to assess the student's readiness. It affects how well students perform academically, their resilience, and their satisfaction with their education. The ability of a student to pick up new information and start making behavioral changes that produce successful and effective learning outcomes is typically measured as "readiness to learn" (Chorrojprasert, 2020). Learning is successful when it is motivated by the process of obtaining and disseminating knowledge (Razzaque & Hamdan, 2019) from one person to another. The degree of a student's academic achievement in learning activities depends on their readiness to learn.

For pupils to perform better academically during the learning process, they must be physically, socially, academically, and emotionally prepared to study. There are still children who have not received their vaccinations, making them vulnerable to various illnesses. Some of the students are struggling with their mental health because of the pandemic. Son et al. (2020)

demonstrated that the COVID-19 epidemic has raised stress and anxiety among college students in the US. Students are more anxious, unhappy, worn out, and distressed as compared to before the pandemic (Elharake et al., 2022).

In light of the above studies, there is still a lack of research on the association between mathematics performance and preparedness for face-to-face classes. This present study aimed to determine the readiness level and mathematics performance of Grade 7 students for face-to-face classes during the COVID-19 pandemic. The findings of this study could serve as a basis for teachers and school leaders to implement interventions and activities that enhance student performance and readiness.

LITERATURE REVIEW

Theoretical Framework

This study is based on Vygotsky's Sociocultural Theory of Cognitive Development, which posits that social interaction, including cooperative and collaborative discourse with someone more competent in the activity at hand, is a key component of how children learn. Vygotsky, who firmly believed that community plays a vital role in the production of meaning, emphasized the important function of social interaction in the formation of cognition. The teacher must design tasks that incorporate both what children can do independently and what they can learn with the help and guidance of others for the curriculum to be developmentally appropriate. This theory is relevant to the research because face-to-face interaction between students and teachers enhances learning effectiveness and meaning.

On the other hand, learning happens when each learner engages in practical activities at school. This made sense in light of David Kolb's Experiential Learning Theory, which emphasizes the value of experience and its impact on learning. According to Kolb, this form of learning involves transforming experience into knowledge; knowledge is produced through the combination of grasping and experiencing. Investigated the effects of experiential learning on student teachers' chemistry achievement and scientific process skills. According to Alkan, the experiential learning stages or process can help students become aware of their professional identities, question their actions, and recognize the significance of their suspicions. He concluded that experiential learning could improve learners' academic achievement and learning outcomes because it encourages them to engage in a process of experiencing, reflecting, thinking about, and acting on their experiences.

Assessing students' readiness in face-to-face classes is extremely important. This research was based on Edward Thorndike's connectionism theory, specifically the law of readiness. According to this law, learning can occur only when a student is ready to learn. Students learn more effectively and with greater satisfaction when they feel prepared. When the student is ready to do some work, doing it is satisfying, and not doing it is irritating. Forcing students to learn when they are unwilling to do so will result in dissatisfaction and annoyance. Many children quickly lose interest in learning because they are forced to know when they are not physically or mentally prepared.

Mathematics Performance

Mathematics is a discipline that demands analytical thinking and problem-solving abilities, the capacity to recall arithmetic information and carry out basic computations, and a strong sense of numbers. Hence, students consider mathematics to be a challenging subject.

The Programme for International Student Assessment (PISA) showed evidence of this notion. Indonesia was ranked 64th out of 65 countries, indicating that Indonesian students' performance levels in mathematics are relatively poor. Despite accurately following the initial steps, these students are having trouble applying the formulas, properties, theorems, and/or laws and are only partially resolving the difficulties. Similarly, Grade 7 students at Sibalom National High School

performed poorly, as evidenced by low scores on items measuring quantity, statistics, and real-number problem-solving. Consistent with this, Jolejole-Caube et al. (2019) found that the overall math performance of Grade 7 students was extremely poor.

With the development of technology, lessons, instructional videos, and various study materials are now accessible to students at any time and from any location online, particularly in light of the COVID-19 epidemic. Self-Learning Modules (SLM) that are already constructed and come with thorough instructions are available in the Philippines to help students improve their consistency and numerical skills. Yet, this area continues to do poorly. Contrary to the above assertions, Capinding (2022) showed that both male and female high school learners excelled in mathematics during modular remote learning. Pupils performed well in mathematics during the COVID-19 pandemic, and the majority of them had high levels of value and mastery-approach goals.

Conversely, male and female students exhibit different performance levels in mathematics. The 2018 Uganda Advanced Certificate of Education (UACE) results demonstrate that female applicants outperformed male candidates at all levels, with a lower failure rate of 0.8% compared to their male counterparts, out of 99,672 students registered for the final exam (Ahimbisibwe, 2019). However, girls fail at a higher percentage than boys in lower secondary, college, and basic school exams (Mazana et al., 2020).

On the other hand, there was no gender difference in the Turkish case, as both male and female learners showed improvement in their scores. Moreover, in 2019, the Ministerio de Educación y Formación Profesional argued that discrepancies in mathematical performance between the sexes cannot be attributed to differences in innate aptitude.

Parents play an important role in the success of a student's mathematics performance. A successful learner receives significant academic support from their devoted parents. This means that there is an increased likelihood that children will succeed academically if their parents are supportive, despite the challenging conditions.

It is evident from the literature and studies cited above that learners' mathematical performance is unsatisfactory and lags behind that of other countries in the region. One of the contributing variables projected was the inadequacy of basic knowledge in four essential mathematical operations of addition, subtraction, multiplication, and division in primary education. Additionally, they have difficulty comprehending various word problems. Studies have shown that students perform very well in modular distance learning, have high-level value and mastery approach goals, and are highly motivated. Males did better than females on the variable sex. Nevertheless, some studies continue to assert that female students outperform male students.

Students' Readiness for Face-to-Face Learning

The term "student readiness" is widely used to describe a learner's capacity to acquire knowledge and initiate behavior that leads to efficient and effective learning outcomes. Upon the resumption of classes, some students may be unprepared for the new system and may prefer the modular learning modality for convenience. Others may prefer face-to-face learning because of the knowledge they can get in school.

There are several factors to consider when implementing in-person classes. Before introducing offline learning, the government and society must take some action. A few of these may be the initial provision of the COVID-19 vaccine as well as the development of human resources, facilities, infrastructure, and licensing. Fitria (2022) reported that the majority of students strongly agree to participate in vaccination programs before joining in-person learning activities.

Students' learning readiness can be categorized into four aspects: cognitive, social, physical, and emotional. Emotional readiness encompasses the fundamental, foundational emotional abilities that support a student's success in the classroom. Knowing one's skills and limitations,

learning how to fail, and attending to one's own needs are all part of being emotionally prepared. Lack of preparation is one of the most frequently cited reasons for dropping out. While this primarily refers to a lack of academic preparation, emotional readiness is also a crucial component of academic success.

The combination of online and offline learning will unavoidably cause the students to experience various emotional responses. In a hybrid learning environment, studies have shown a significant correlation between students' feelings and their academic success. Emotions are crucial to students' academic interests, participation, success, and overall well-being.

On the other hand, academic emotion and the teaching and learning process are closely related. Students' emotional state and pursuit of learning goals are mediated by factors like attention, self-control, and motivation.

Furthermore, Borres et al. (2023) found that the students' level of readiness in terms of their emotional aspects in one of the high schools in the Division of Gingoog City, Philippines, was high. Students are generally enthusiastic about face-to-face instruction. Face-to-face teaching with the teacher is more comfortable for students than simply using a distance learning module. Additionally, face-to-face teaching will facilitate easier interaction between students and their teachers.

According to Stanford researchers in 2021, face-to-face communication makes our brains happier. This implies that students are more motivated and interested when they have the opportunity to interact with others. Students who take classes in person will not only feel more involved, but they will also play a significant role in how well the teaching-learning process works. A person's level of emotional preparedness reflects both how they feel and how they respond to others' needs. Additionally, emotional readiness is a skill that should be mastered when facing a crisis. If people learn to manage their emotions effectively, they can develop resilience in all aspects of life.

According to the empirical evidence presented in the report, education reform will not be successful unless children's health is given top priority. Additionally, Zerga et al. (2022) demonstrated that stunting, underweight status, and inadequate iodine intake significantly impacted children's academic performance. If people are severely ill, their minds cannot work properly.

Borres et al. (2023) found that students' physical readiness was high. Students are in good enough physical condition to take face-to-face classes. Most students agree that they are in good enough health to participate in in-person learning. This is supported by the notion that a healthy person can effectively manage their own health. These students feel accountable for their health because they are already in high school. They can appropriately care for themselves and manage themselves well in this regard. Being accountable for your health may also entail taking the required steps to maintain and enhance it.

The degree of students' motivation and preparation influences their readiness to learn. According to Satrianta et al. (2022), students at SMK Negeri 2 Kendari have a high level of preparedness for in-person learning and are ready to participate. They also discovered that female learners are more prepared to study than male learners.

The studies listed above, which are relevant to this topic, indicate that students with higher socioeconomic status (SES) outperform those with lower SES in academic performance. Those with high SES levels can access better resources, which helps them learn more effectively. Studies on student preparation for in-person education have found that it is at a higher level. After two years of online and modular programs, the student's enthusiasm for attending class is one potential cause.

RESEARCH METHOD

Research Design

This study used a quantitative approach and a descriptive research design. The researcher was able to gather information outlining the characteristics of events and happenings. Likewise, the

descriptive-correlational research design was also utilized to conduct statistical analysis to determine the correlation between the two variables under consideration, such as the student's readiness and their mathematics performance. This design helped the researcher identify whether the independent variable affects the dependent variable.

The descriptive correlational design is a method used in studies to establish the relationship between various variables and to create static images of situations. Moreover, correlational research is a statistical test to identify the likelihood or pattern for two or more variables or two sets of data to change regularly.

Respondents of the Study

The chosen Grade 7 students at Balibago Integrated High School-Extension who were enrolled in the face-to-face learning modality for the School Year 2022-2023 served as the respondents for this study. The sample size was determined using Cochran's formula with 95% confidence and 5% precision. An equation to estimate the sample size for the big population proportion. This holds that an approximate guess of the required sample size is made disjointedly for each item in the survey.

Table 1. Population and Sample Size of the Respondents of the Study

Population			Sample		
Male	Female	Total	Male	Female	Total
186	150	336	100	80	180

The table showed that the population consisted of 186 male and 150 female students. Moreover, of the 180 respondents, 100 were male and 80 were female.

Sampling Technique

The study used a stratified proportionate random sampling technique. The components of the target population are separated into distinct groups or strata, and within each stratum, the components are similar in terms of characteristics of importance to the survey (Parsons, 2017). The students' characteristics and demographic profiles, such as sex and socioeconomic status, served as the basis for groupings. The proportion of each stratum in the target population was inversely associated with the number of elements assigned to that stratum in the sample. The number of respondents was divided by the total population of Grade 7 students. The sample size was determined by multiplying the result by the number of male and female students in each section. Following stratification, a sample was selected from each stratum, often through simple random sampling. The Grade 7 students had an equal chance of being chosen as a sample.

Research Instrument

The students' level of mathematics competence and readiness for face-to-face learning were assessed using a questionnaire created by the researcher. The questionnaire on readiness was composed of 19 items, four of which were used to assess students' cognitive readiness, five for measuring social readiness, five for measuring physical readiness, and another five for measuring students' emotional readiness in face-to-face learning. On a 5-point scale, the 19 survey questions were scored as follows: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = severely disagree. Below was the questionnaire used to assess the students' readiness level.

Table 2. Survey Questions

	5 (Strongly Agree)	**4** (Agree)	**3** (Neutral)	**2** (Disagree)	**1** (Strongly Disagree)
Cognitive Readiness (How prepared is your cognitive aspect for face-to-face learning?)					
1. I can easily follow the math lessons.					
2. I am confident that I can answer my teacher's questions during recitation.					
3. I can learn from things I see and hear, like lectures, audio recordings, videos, visuals, modules, and books.					
4. I believe I do my best to learn in class.					
Social Readiness (How prepared are you to perform the following social interaction tasks in face-to-face learning with your classmates and teachers?)					
1. I can easily make friends.					
2. I can initiate social interaction with my teachers and classmates if needed.					
3. I can courteously interact with other students and teachers.					
4. I am willing to help my classmates whenever they need me.					
5. I am open to suggestions and advice from my classmates.					
Physical Readiness (How prepared are your health and physical aspects for face-to-face learning?)					
1. I am free from any sickness.					
2. I can submit my tasks on time.					
3. I can perform mathematical computations.					
4. I can get up early and make it to my classes on time.					
5. I can actively participate in various tasks assigned to me by my teacher.					
Emotional Readiness (How prepared are your emotions for face-to-face learning?)					
1. I can clearly express my thoughts and feelings toward my classmates and teachers.					
2. I can manage my stress while performing various tasks at school.					

	5 (Strongly Agree)	4 (Agree)	3 (Neutral)	2 (Disagree)	1 (Strongly Disagree)
3. I have someone with whom I can share my problems.					
4. I'm capable of dealing with my mood swings.					
5. I can overcome my nervousness during oral recitation.					

This questionnaire on readiness was validated by experts in the field, composed of master teachers. Six evaluation criteria, including clarity, overlapping responses, appropriateness of listed responses, application to praxis, relationship to the problem, and measure of constructs, were used to evaluate this questionnaire. The average score for clarity was 3.67; the average score for overlapping responses, appropriateness of listed responses, relationship to the problem, and measure of constructs was 3.33; and the average score for application to praxis was 4, for which each criterion exceeded expectations.

Furthermore, the pilot testing was done with twenty-five Grade 10 students. The Cronbach's alpha for internal consistency for each subscale was 0.807 for cognitive readiness, 0.874 for social readiness, 0.406 for physical readiness, and 0.833 for emotional readiness. The overall Cronbach's alpha for the four subscales was 0.906, which was interpreted as excellent.

On the other hand, the test to measure the students' mathematics performance consisted of 25 items answered within 1 hour and 30 minutes. The researcher provided a table of specifications to ensure that the assessment was aligned with the Most Essential Learning Competencies (MELCs) required.

Research Procedure

The instruments on readiness and mathematics performance were developed, assessed for validity and reliability, approved by the research adviser, and modified before being distributed to Grade 7 students. These were administered to the respondents with the consent of the division superintendent and school head.

The instruments were distributed and answered by the students on November 11, 2022, which was the first week of the full face-to-face classes within 1 hour and 30 minutes. The statistics were then tabulated. The conclusions and recommendations were derived from the calculations and analysis of the gathered data.

Data Analysis

To find out the students' readiness level and mathematics performance in face-to-face learning, the mean was employed. Likewise, the Pearson product-moment correlation coefficient (Pearson R), which measures the association between students' preparation and mathematics performance in face-to-face learning, and the hierarchical multiple regression (HMR), which examines the moderating effect of the socio-demographic profile of Grade 7 learners on the correlation between their preparation and mathematical performance in face-to-face learning, were used.

To interpret the mean of students' responses in terms of their readiness level for face-to-face learning, the researcher utilized the Likert scale.

Table 3. Verbal Interpretation of the Students' Readiness Level in Face-to-Face Learning

Score Range	Verbal Description
3.67 – 5.00	High
2.34 – 3.66	Moderate
1.00 – 2.33	Low

The table showed that students were classified as having low readiness if their score ranged from 1.00 to 2.33, moderate readiness if it ranged from 2.34 to 3.66, and high readiness if it ranged from 3.67 to 5.00. On the other hand, the students' mathematics performance was interpreted using the Likert scale below.

Table 4. Verbal Interpretation of the Students' Mathematics Performance Level

Score Range	Verbal Description
20.01 – 25.00	Very High
15.01 – 20.00	High
10.00 – 15.00	Moderate
5.01 – 10.00	Low
0.00 – 5.00	Very Low

As seen in the table, students' mean test scores between 0.00 and 5.00 were interpreted as very low, 5.01 and 10.00 were interpreted as low, 10.01 and 15.00 were interpreted as moderate, 15.01 and 20.00 were interpreted as high, and 20.01 and 25.00 were interpreted as very high.

FINDINGS AND DISCUSSION

Students' Demographic Profile in Terms of Sex and Socio-Economic Status

Figure 1 displays the respondents' frequency and percentage distribution by sex.

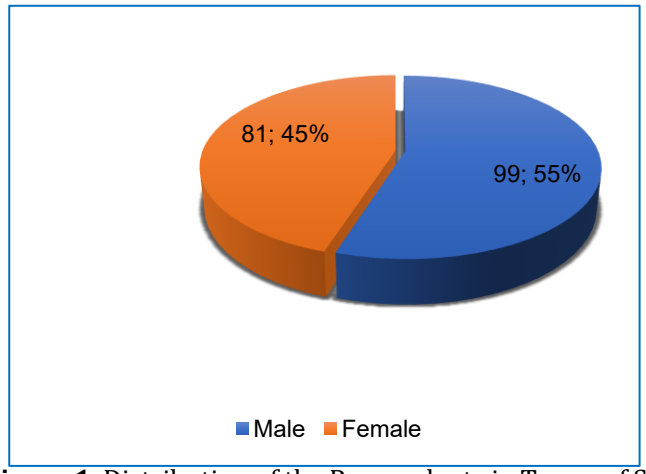

Figure 1. Distribution of the Respondents in Terms of Sex

As shown in Figure 1, the study had 81 female respondents and 99 male respondents, or 55% and 45%, respectively. This implies that respondents' responses were predominately made by male students.

Figure 2 indicates the percentage and frequency distribution of the respondents according to their parents' monthly income.

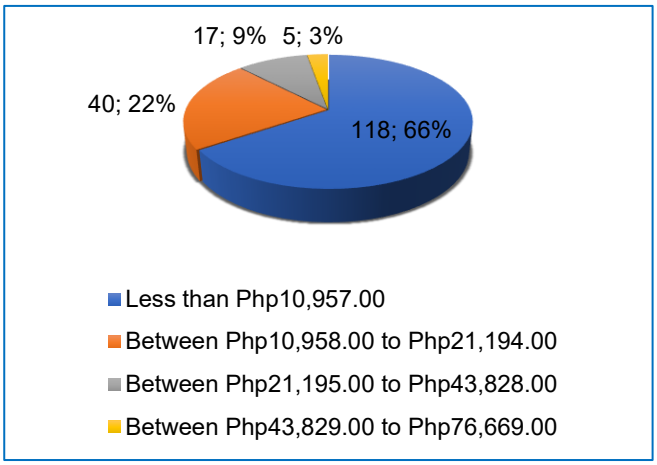

Figure 2. Distribution of the Respondents in Terms of Parents' Monthly Income

As presented in Figure 2, most respondents' parents had incomes below Php10,957.00 (66%; n = 118). 40, or 22%, of the respondents' parents had incomes ranging from Php 10,958 to Php 21,194 per month; 17, or 9% had incomes ranging from Php 21,195 to Php 43,828 per month; and 5, or 3% of the respondents' parents had incomes ranging from Php 43,829.00 to Php 76,669.00 per month.

This implies that a large number of Grade 7 students' Parents' monthly income was below Php 10,957.00.

Students' Level of Cognitive Readiness

Table 5. Students' Level of Cognitive Readiness

	Indicative Statement	Mean	SD	Descriptive Interpretation
1.	I can easily follow the math lessons.	3.81	0.84	High
2.	I am confident that I can answer my teacher's questions during recitation.	3.56	0.84	Moderate
3.	I can learn from things I see and hear, like lectures, audio recordings, videos, visuals, modules, and books.	3.88	0.87	High
4.	I believe I do my best to learn in class.	4.37	0.79	High
	Composite	**3.90**	**0.56**	**High**

Legend: 3.67 – 5.00 = High; 2.34 – 3.66 = Moderate; 1.00 – 2.33 = Low

As shown in Table 5, the statements that gained a "High" descriptive interpretation were "I can easily follow the math lessons" (mean = 3.81, SD = 0.84), "I can learn from things I see and hear, like lectures, audio recordings, or videos, visuals, modules, and books" (mean = 3.88, SD = 0.87), and "I believe I do my best to learn in class" (mean = 4.37, SD = 0.79). However, the cognitive readiness of students in the indicative statement "I am confident that I can answer my teacher's questions during recitation" (mean = 3.56, SD = 0.84) was at the moderate level. With a standard deviation of 0.56 and an overall mean of 3.90, students' level of cognitive readiness fell within the category of "High".

This result was supported by Satrianta et al. (2022), who found that learners at SMK Negeri 2 Kendari were fundamentally ready to engage in limited face-to-face learning and well prepared for face-to-face instruction. Additionally, they ought to be cognitively prepared to understand, reason, plan, solve problems, engage in abstract thought, and learn from experience. Children may achieve excellent grades if they are cognitively ready and mentally competent.

Students' Level of Social Readiness

Table 6. Students' Level of Social Readiness

Indicative Statement	Mean	SD	Descriptive Interpretation
1. I can easily make friends.	3.98	0.99	High
2. I can initiate social interaction with my teachers and classmates if needed.	3.80	0.76	High
3. I can courteously interact with other students and teachers.	3.76	0.85	High
4. I am willing to help my classmates whenever they need me.	4.15	0.84	High
5. I am open to suggestions and advice from my classmates.	3.87	0.99	High
Composite	**3.91**	**0.56**	**High**

Legend: 3.67 – 5.00 = High; 2.34 – 3.66 = Moderate; 1.00 – 2.33 = Low

As displayed in Table 5, the statement "I can easily make friends", got a mean of 3.98 and an SD of 0.99. However, statement 2, "I can initiate social interaction with my teachers and classmates if needed," had a mean of 3.80 and SD of 0.76. Statement 3, "I can courteously interact with other students and teachers," got a mean of 3.76 and an SD of 0.85, while statement 4, "I am willing to help my classmates whenever they need me," had a mean of 4.15 and an SD of 0.84. Lastly, statement 5, "I am open to suggestions and advice from my classmates", had a mean of 3.87 and an SD of 0.99. All of the statements had a "High" interpretation and had an overall mean and standard deviation of 3.91 and 0.56, respectively.

High levels of social preparedness are associated with excellent academic success. The result was consistent with the research, which concluded that peer interactions and academic domains had a good, substantial association. Since some students acquire knowledge from their peers, group talks are also useful as a way to improve performance. Sometimes, students are hesitant to ask their teachers for assistance; instead, they feel more at ease asking their peers and friends.

Students' Level of Physical Readiness

Table 7. Students' Level of Physical Readiness

Indicative Statement	Mean	SD	Descriptive Interpretation
1. I am free from any sickness.	3.70	0.94	High
2. I can submit my tasks on time.	3.87	0.90	High
3. I can perform mathematical computations.	3.49	0.87	Moderate
4. I can get up early and make it to my classes on time.	4.11	0.92	High
5. I can actively participate in various tasks assigned to me by my teacher.	3.84	0.89	High
Composite	**3.80**	**0.58**	**High**

Legend: 3.67 – 5.00 = High; 2.34 – 3.66 = Moderate; 1.00 – 2.33 = Low

As presented in Table 6, the statements "I am free from any sickness" (mean of 3.70 and SD of 0.94), "I can submit my tasks on time" (mean = 3.87, SD = 0.90), "I can get up early and make it to my classes on time" (mean = 4.11, SD = 0.91), and "I can actively participate in various tasks assigned to me by my teacher" (mean = 3.84, SD = 0.89) were interpreted as "High." On the other hand, statement 3, "I can perform mathematical computations," had a mean of 3.49 and SD of 0.87, which were interpreted as "Moderate." The overall mean was 3.80 and the standard deviation was

0.58, also interpreted as "High." This merely indicates that learners are prepared physically to engage in face-to-face education.

Students must be fully vaccinated for on-site learning for them to be physically safe. This finding agrees, who stated that the government and society must make some preparations before implementing offline learning, which may include the preparation of human resources, facilities, infrastructure, licenses, and the ensuing provision of COVID-19 vaccine vaccination. This was further supported by the study of Fitria (2022), which revealed that the majority of the students readily volunteered to participate in vaccination activities before joining and enrolling in restricted in-person learning activities.

On the other hand, students can focus better in class and at school activities when they are physically healthy and free from diseases. This may suggest good mathematics performance.

Students' Level of Emotional Readiness

Table 8. Students' Level of Emotional Readiness

Indicative Statement	Mean	SD	Descriptive Interpretation
1. I can clearly express my thoughts and feelings toward my classmates and teachers.	3.57	0.85	Moderate
2. I can manage my stress while performing various tasks at school.	3.68	0.91	High
3. I have someone with whom I can share my problems.	3.48	1.21	Moderate
4. I'm capable of dealing with my mood swings.	3.58	0.96	Moderate
5. I can overcome my nervousness during oral recitation.	3.56	0.95	Moderate
Composite	**3.57**	**0.58**	**Moderate**

Legend: 3.67 – 5.00 = High; 2.34 – 3.66 = Moderate; 1.00 – 2.33 = Low

As reflected in Table 7, only the statement "I am able to manage stress while performing various tasks at school" (mean = 3.68, SD = 0.91) had a high level of emotional readiness. However, the statements that got a "Moderate" descriptive interpretation were as follows: "I can clearly express my thoughts and feelings towards my classmates and teachers" (mean = 3.57, SD = 0.85), "I have someone with whom I can share my problems" (mean = 3.48, SD = 1.21), "I'm capable of dealing with my mood swings" (mean = 3.58, SD = 0.96), and "I can overcome my nervousness during oral recitation" (mean = 3.56, SD = 0.95). The grand mean was 3.57 while the standard deviation was 0.58, interpreted as moderate.

This finding also validates the assertion that students' emotions are crucial when it comes to their academic interests, engagement, performance, and general well-being. Positive feelings, such as happiness, pride, and enthusiasm, are the results of positive emotions and can boost performance and satisfaction. Negative feelings, on the other hand, can increase tension and anxiety, as well as lower motivation and performance.

However, the findings were disproved by Borres et al. (2023), who discovered that the student's degree of readiness in terms of their emotional characteristics in one of the high schools in the Division of Gingoog City, Philippines, was high. Instead of studying at home, students are ready to learn in school. Learning can give them happiness and a sense of fulfillment, rather than doing nothing.

According to our observations, many of the children are not yet emotionally stable; therefore, this differs from the study's findings. They are not completely prepared for face-to-face instruction

because many of them struggle with anxiety and despair.

Summary of Students' Readiness Level

Table 9. Summary of Student's Level of Readiness

Student's Readiness	Mean	SD	Descriptive Interpretation
Cognitive	3.90	0.56	High
Social	3.91	0.56	High
Physical	3.80	0.58	High
Emotional	3.57	0.58	Moderate
Overall Readiness	3.79	0.46	High

Legend: 3.67 – 5.00 = High; 2.34 – 3.66 = Moderate; 1.00 – 2.33 = Low

It can be gleaned from Table 8 that overall, the results of readiness in terms of cognitive (mean = 3.90, SD = 0.56), social (mean = 3.91, SD = 0.56), and physical (mean = 3.80, SD = 0.58) were interpreted as "High". The overall mean of the readiness was 3.80 while the standard deviation was 0.57, interpreted as "High". This was corroborated by research by Borres et al. (2023), which found that pupils in one of the high schools in the Philippines' Division of Gingoog City had a high degree of readiness concerning their physical aspect. The students are in adequate physical condition to participate in in-person instruction.

Moreover, this relates to a study that found that students are more motivated when learning with friends. The best way for students to acquire knowledge is in a group setting, where they can work together and finish the tasks with their classmates. Furthermore, the level of students' emotional readiness was moderate (mean = 3.57, SD = 0.58). This was in contrast to the study by Borres et al. (2023), which discovered that the students had a high level of emotional readiness. They were happy to hear the news about face-to-face classes after years of distance learning. It was also agreed upon by Stanford researchers in 2021, who found that face-to-face communication makes brains happier. This implies that students are more motivated and interested when they can interact with others.

Students' Level of Mathematics Performance

Table 10. Students' Level of Mathematics Performance

Score	Descriptive Interpretation	Frequency	Percentage
0 to 5	Very Low	65	36.11
6 to 10	Low	101	56.11
11 to 15	Moderate	12	6.67
16 to 20	High	2	1.11
Total		**180**	**100.00**

Mean = 6.72 (SD = 2.93) (Low)

As presented in Table 9, 65 students had scores ranging from 0 to 5, representing 36.11% and interpreted as very low. 101 of the respondents got scores ranging from 6 to 10 (percentage = 56.11) and were interpreted as low. 12 students got scores ranging from 11 to 15 with a percentage of 6.67, which was interpreted as moderate. Lastly, 2 students got scores ranging from 16 to 20 (percentage = 1.11) that were interpreted as high.

With the result, the researcher developed the impression that students had low levels of

mathematical performance (mean = 6.72, SD = 2.93). This result supports the findings of research by Jolehole-Caube et al. (2019), which indicated that mathematics performance in the 7th grade was extremely poor. Additionally, it supports the claim that Indonesian pupils have exceptionally poor performance scores in mathematics. Increasing students' mathematics performance has been a challenge for teachers and curriculum planners. Teachers may put more effort into planning and investigating the best strategies and methods. Moreover, for students to become globally competent, they must make a significant effort to learn math concepts and techniques.

Relationship Between Students' Level of Readiness and Mathematics Performance

Table 11. Test of Significant Relationship Between Students' Level of Readiness and Mathematics Performance

Level of Readiness and Mathematics Performance	r-value	p-value
Cognitive	.203**	.006
Social	.107	.153
Physical	.178*	.017
Emotional	.163*	.029
Overall Readiness	.200**	.007

***Significant at p <.01; *Significant at p < .05*

Based on the table, there was a positive and substantial correlation between students' math performance and their level of cognitive readiness (r-value = .203, p-value = .006, significant at p<.01). Similar to this, the analysis of the data showed a positive and significant association between students' level of physical preparation and their mathematics achievement (r-value = .178, p-value = .017, significant at p<.05). The results also revealed a positive and significant link between students' level of readiness in terms of their emotional readiness and their mathematical ability (r-value = .200, p-value = .007, significant at p<.01).

On the other hand, it showed that there was no substantial and positive association between their level of readiness in terms of social readiness and mathematics performance (r-value = .107, p-value = .153).

However, there was a strong and positive correlation between students' mathematics performance and their readiness in terms of cognitive, social, physical, and emotional readiness (r-value = .200, p-value = .007, significant at p<.01).

These findings were corroborated, who found that there was a strong correlation between students' feelings and their academic success in a blended learning environment. This relationship is essential for student's academic interest, engagement, performance, and general well-being. Additionally, the results are related to the findings of Zerga et al. (2022), who demonstrated how stunting, underweight, and insufficient iodine intake significantly impacted children's academic performance. Students can think well if they are emotionally, cognitively, socially, and physically stable.

Moderating the Effect of Students' Sex on the Relationship Between Their Level of Readiness and Mathematics Performance

Table 12. Test of the Moderating Effect of Students' Sex on the Relationship Between Students' Level of Readiness and Mathematics Performance

R	R Square	MSE	F	df1	df2	P
.2367	.0560	8.2413	3.4817	3.0000	176.0000	.0171
			Model			
	Coefficient	se	t	p	LLCI	ULCI

Constant	-4.7598	5.3596	-.8881	.3757	-15.3371	5.8176
Readiness	3.1824	1.4027	2.2687	.0245	.4141	5.9508
Sex	4.9113	3.7185	1.3208	.1883	-2.4272	12.2499
Int_1	-1.4026	.9739	-1.4402	.1516	-3.3246	.5194
Test (s) of Highest Order Unconditional Interaction (s)						
	R Square Change	F	df1	df2	P	
X*W	.0111	2.0742	1.0000	176.0000	.1516	

The term' integration' (Int_1) indicates whether sex does not moderate the relationship between the student's level of readiness and their mathematics performance. Based on the results, the p-value of .1516 was greater than 0.05, and there was zero in between the lower limit confidence interval and the upper limit confidence interval (LLCI = -3.3246, ULCI = .5194). Hence, it showed that the association between learners' level of preparation and mathematics performance was not significantly moderated by sex.

Moreover, a p-value of 0.1516 (significant at $p < 0.01$) revealed that the interaction did not significantly moderate the students' readiness for face-to-face learning in terms of sex. This indicates that the sex of the students has no impact on their preparation and mathematics performance in face-to-face instruction.

This finding aligns with research that discovered, in the Turkish context, both male and female students improved their results without a discernible gender difference. This was corroborated by the Ministerio de Educación y Formación Profesional in 2019, which asserts that innate disparities in ability cannot account for the differences in math performance between the sexes. This implies that if the guys' score is high, the girls' score will likewise be high. Regardless of gender, students perform similarly.

Moderating Effect of Students' Socio-Economic Status on the Relationship Between Their Level of Readiness and Mathematics Performance

Table 13. Test of the Moderating Effect of Students' Socio-economic Status on the Relationship Between Students' Level of Readiness and Mathematics

Model Summary						
R	R Square	MSE	F	df1	df2	P
.2010	.0404	8.3777	2.4700	3.0000	176.0000	.0635
Model						
	Coefficient	se	t	p	LLCI	ULCI
Constant	1.7569	3.8987	.4506	.6528	-5.9373	9.4510
Readiness	1.2808	1.0233	1.2517	.2124	-.7387	3.3002
SES	.0540	2.3322	.0231	.9816	-4.5487	4.6566
Int_1	.0040	.6194	.0064	.9949	-1.2185	1.2264
Test (s) of Highest Order Unconditional Interaction (s)						
	R Square Change	F	df1	df2	P	
X*W	.0000	.0000	1.0000	176.0000	.9949	

Based on the table, there was no moderating effect on the link between students' level of preparation and their mathematical performance regarding their socioeconomic status (LLCI = -

1.2185, ULCI = 1.2264, p-value = .9949, significant at p<.01). In addition, the p-value showed that the interaction did not moderate the students' readiness and socioeconomic status. This demonstrated that the degree of association between students' preparation and mathematics in face-to-face instruction is unaffected by their social status.

This result was contrasted with a claim that children of high-SES parents outperformed those of low-SES parents in terms of academic performance. This study's findings are different because parents from high socioeconomic backgrounds had ample access to a variety of resources and tools that might help improve their students' performance and even make reservations for tutors, which low-SES parents sometimes cannot afford.

CONCLUSIONS

Based on the researcher's data collection efforts, in which these data were computed and analyzed, the study successfully met its intended objectives, which were to identify the mathematics performance and readiness level of Grade 7 students in face-to-face learning as well as determine the relationship between these two variables.

In light of the findings, the researcher concludes that there is a significant relationship between the readiness of Grade 7 students and their mathematics performance in face-to-face learning. This indicates that students' performance in mathematics will be impacted by how well they are prepared cognitively, physically, socially, and emotionally. Their performance might improve if they are highly prepared and might decrease if they are not. This will help the administrator, along with the school guidance counselor and the head of the mathematics department, to design pertinent activities and programs to improve students' readiness and performance in mathematics during face-to-face instruction. Moreover, teachers may plan instructional interventions that incorporate ICT, such as interactive games and various mobile applications, to increase students' enthusiasm for mathematics. They might also adopt or come across techniques that could work for any learner.

Second, the researcher concludes that there is no significant moderating effect of the students' profiles in terms of sex and socioeconomic status (SES) on the relationship between their readiness and mathematics performance in face-to-face classes. This suggests that preparedness and math performance among students were unrelated to sex and socioeconomic level. When compared to students from low socioeconomic status, the readiness and math performance of students from high socioeconomic status are the same. It is proposed that further investigation into these assertions be conducted.

LIMITATIONS & FURTHER RESEARCH

Like many others, this study has its limitations. Other researchers can use these limits as a springboard to identify and conduct relevant studies that further examine how well-prepared and effective young learners are for face-to-face instruction. On the other hand, only 180 Grade 7 students at the Balibago Integrated High School Extension in Santa Rosa City, Philippines, were included in the data collection, which used survey questions developed by the researcher. The school where the data were collected is only classified as a secondary public school. No data were gathered from schools at the elementary, secondary, or even comparable levels in the private schools. Finally, the study focused solely on the pupils' preparedness in terms of their cognitive, physical, social, and emotional aspects. Various researchers may choose to focus on different aspects within a larger locale.

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