

# Socio-Demographic Characteristics and Level of Pedagogical Competence of Teachers in Alabel National Science High School

Jane Claire L. Forrosuelo

## ABSTRACT

This study investigates the relationship between socio-demographic characteristics and pedagogical competence among teachers at Alabel National Science High School (ANSHS). Drawing on a descriptive-correlational research design, data was gathered through an adapted questionnaire focusing on teachers' demographics and pedagogical competence. Statistical analyses included frequency and percentage for socio-demographics, weighted mean for pedagogical competence and correlation coefficients to examine relationships. Findings indicate a mature, predominantly female workforce with high educational attainment but limited doctoral degrees and top leadership positions. Teachers demonstrate excellent pedagogical competence overall. While correlations between socio-demographic factors and pedagogical competence exist, many are not statistically significant. Notably, gender disparities affect subject matter knowledge, and age influences classroom management skills to varying degrees. These findings underscore the need for continued support and development initiatives tailored to ANSHS teachers to enhance pedagogical practices and address potential disparities.

**Keywords:** pedagogical competence, socio-demographic characteristics, descriptive-correlational research, Alabel National Science High School

## 1. INTRODUCTION

The role of teachers in building a sustainable society is crucial. Teachers contribute to social, economic, and intellectual development by encouraging curiosity, problem-solving, and a thirst for knowledge. They can also be agents of social change by addressing issues like inequality and discrimination through education.

The recent PISA 2022 results show the Philippines' performance has largely stayed the same compared to 2018. This challenges the education system to improve teachers' pedagogical competence and teaching approaches.

Research shows teachers' personal and professional demographics, like education level and socioeconomic status, can significantly impact factors like student earnings, academic achievement, and teaching effectiveness. Teachers' pedagogical competence, including content knowledge and instructional quality, are key determinants of student learning outcomes.

Reasons for the lack of pedagogical competence among Philippine teachers include being assigned to teach outside their specialization, inadequate training and support, and the shift to online teaching during COVID-19. This is an issue the education system needs to address.

While some research explores the link between teacher backgrounds and student achievement, fewer studies focus specifically on the connection between teachers' demographics and their pedagogical

competence. This is an area that merits further investigation, particularly at Alabel National Science High School.

## **2. METHODOLOGY**

The researcher employed a descriptive-correlational research design by Creswell (2018). This will be used to measure the level of teachers' Socio-demographic Characteristics (independent variable). This method was also used to determine the level of pedagogical competence of the teachers (dependent variable). In addition, the same method was utilized to meet the objective of this study of determining the significant relationship between the Socio-demographic Characteristics and the Pedagogical Competence of the Teachers of Alabel National Science High School.

The study was conducted in Alabel National Science High School with coordinates 6°05'55"N, 125°16'25"E. This 4.76-hectare land is part of the compound of the Sarangani Provincial Capitol in Barangay Maribulan, Alabel, Sarangani Province.

This research utilized an adapted and modified questionnaire. The survey questionnaire consists of 32 items divided into Part A and Part B. Part A consists of 12 items describing the Socio-Demographic Characteristics. Part B contains 20 statements related to the teachers' pedagogical competence. This questionnaire tool used a 5-point Likert scale to assess the pedagogical competence of Alabel National Science High School teachers. Personal and Professional Demographic Characteristics (Francisco, 2020) and The Pedagogical Competence Questionnaire (Roble, 2022) will be adopted for Parts A and B of this study's questionnaire.

A validation tool by Oducado (2020) used to test the validity of the survey questionnaire. Five distinct credible individuals were identified to administer the tool validation.

The data from the survey was analyzed, and the responses was tallied and statistically treated using a weighted mean and determine the mean for each item in the questionnaire. The weighted mean was interpreted using a given qualitative interpretation to describe the implication of the results.

In determining Socio-Demographic Characteristics (SOP numbers 1), The study uses frequency and percentage to express and analyze the socio-demographic characteristics of the respondents.

The interval with the corresponding scale rating and qualitative interpretation below will be used to determine the teachers' level of pedagogical competence (SOP number 2). To answer SOP number 3 of the study, the Pearson Product Correlation Coefficient was used if the data sets are typically distributed. However, the Spearman Correlation Coefficient was used to determine if the data sets were not normally distributed.

## **3. RESULT**

Based on the analysis and interpretation of the gathered data of this study, the following results were:

**3.1** The socio-demographic characteristics of teachers at Alabel National Science High School underscore several key findings. Firstly, most teachers belong to the 41-50 age group, suggesting a seasoned workforce with considerable experience. There's a significant gender gap, with females comprising the majority, potentially reflecting a broader trend in the teaching profession. Most teachers boast at least a bachelor's degree with MA units, indicating a high level of education and ongoing professional growth, although few have attained a Doctorate Degree. Teacher II and Teacher I are the predominant ranks, suggesting significant responsibilities without necessarily holding top leadership positions. Furthermore,

a substantial number of teachers received an Outstanding performance rating, signaling widespread excellence, with only a minority rated as Satisfactory, indicating a prevailing culture of high achievement.

**3.2** The level of Pedagogical competence of the teachers in Alabel National Science High School is notably Very High with an overall mean of 4.72.

**3.3** Some correlations exist between socio-demographic factors and pedagogical competence, many are not statistically significant. Notably, gender disparities emerge in subject matter knowledge, and age seems to correlate with classroom management skills, albeit with varying levels of significance.

## **4. DISCUSSION**

### **4.1 Age and Experience**

The majority of teachers belonging to the 41-50 age group suggests a seasoned workforce with considerable experience. This can positively impact student learning outcomes, as research has shown that as teachers' years of experience progress, student academic achievement increases. A study by Francisco (2020) found that teachers' personal and professional demographic characteristics significantly impact students' academic performance.

### **4.2 Gender Gap**

The significant gender gap, with females comprising the majority of teachers, reflects a broader trend in the teaching profession. While some studies have found that female teachers are more vulnerable to stress and burnout, the pandemic context seems to have canceled out these gender differences. A study by Salvan and Hambre (2020) revealed that there are more female teachers than male teachers.

### **4.3 Education Level**

Most teachers have at least a bachelor's degree with MA units, indicating a high level of education and ongoing professional growth. This is important as teachers' academic qualifications, content knowledge, instructional quality, and evaluation procedures significantly contribute to students' academic performance. However, the lack of teachers with Doctorate degrees suggests a need for more advanced academic opportunities.

### **4.4 Teacher Ranks**

The predominance of Teacher II and Teacher I ranks suggests significant responsibilities without necessarily holding top leadership positions. While research emphasizes the importance of teacher ranks in shaping the educational experience, the specific impact of these ranks on pedagogical competence and student outcomes requires further investigation.

### **4.5 Performance Rating**

The substantial number of teachers receiving an Outstanding performance rating signals widespread excellence and a prevailing culture of high achievement. This is supported by research showing that teachers' performance ratings are significantly influenced by their pedagogical competence.

### **4.6 Pedagogical Competence**

The very high level of pedagogical competence among teachers at Alabel National Science High School (overall mean of 4.72) suggests that they have a strong foundation in teaching practices and are well-equipped to deliver high-quality education. This is in line with research findings that teacher pedagogic competence significantly contributes to student outcomes.

### **4.7 Correlations between Socio-Demographic Factors and Pedagogical Competence**

While some correlations exist between socio-demographic factors and pedagogical competence, many are not statistically significant. The gender disparities in subject matter knowledge could be due to differences

in teaching styles or subject matter expertise. The correlation between age and classroom management skills suggests that older teachers tend to have more experience in managing classrooms effectively. However, the pandemic context may have influenced these relationships, as younger teachers with stronger digital skills were less stressed in online teaching compared to more experienced teachers.

## 5. RECOMMENDATIONS

Based on the conclusions of this study, the following are the recommendations:

1. Teachers may be encouraged and supported in pursuing advanced degrees that can contribute to the academic excellence of the institution and provide opportunities for professional growth and specialization.
2. Despite the high level of pedagogical competence exhibited by teachers, continuous professional development opportunities should be provided to ensure that teaching practices remain innovative and effective. This can include workshops, seminars, and training sessions focused on current pedagogical trends and methodologies.
3. While the study found largely non-significant correlations between socio-demographic characteristics and pedagogical competence, further investigation into gender disparities in subject matter knowledge and age-related variations in classroom management skills is recommended. Understanding these relationships more deeply can inform targeted interventions aimed at addressing any disparities and enhancing overall pedagogical effectiveness.

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