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Teaching proficiency of pre-service secondary teachers in Eastern Samar State University-Salcedo Campus

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ABSTRACT

Competent teachers are attributed to student performance, school effectiveness, and the efficiency of an entire education system. Hence, this study compares the respondents' teaching proficiency across their profiles and correlates to their academic performance. The study utilized 30 pre-service secondary teachers of Eastern Samar State University Salcedo selected by complete enumeration, a descriptive comparative and correlational research design, and a questionnaire. Frequency, percentage, mean, and standard deviation were applied for descriptive analysis; t-test for comparison of respondents' teaching proficiency; and Pearson's correlation coefficient for the relationship between academic performance and teaching proficiency. The study revealed that respondents had a proficient teaching proficiency. Specifically, they were proficient in subject matter knowledge, lesson planning, classroom management, instructional strategies and motivation, communication skills, questioning skills, and professionalism. They have a very good academic performance in both professional education and major field of specialization. Furthermore, the study found no significant difference in the teaching proficiency across the respondents' sex and age. However, a significant relationship was found between academic performance and teaching proficiency. Based on the findings, it is recommended that remedial classes on contents, pedagogies, and principles be provided especially for those respondents with low academic performance, to improve their teaching proficiency.

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1. INTRODUCTION

Education is one of the important provisions of life. It gives young people the skills they need to become resourceful and involved community members [1]. Prasad and Gupta [2] emphasized education provides people with knowledge, techniques, and skills that affect their perspective of life and ability to succeed in life. Osman *et al.* [3] emphasized that what students are motivated to excel academically depends on three factors: the student-teacher relationship, unconditional supportive family, and like-minded peers. Students need to have teachers who inspire them to be great, parents who drive students to give their best, but at the same time minimize their level of anxiety, and peers who support them whatever they do, inside or outside the academic arena.

However, the most important resources in Philippine education are competent and well-performing teachers who are accountable for educating younger Filipinos according to national values [4]. Teachers' successes or failures are often attributed to their readiness and professionalism. Adequately-prepared teachers

contribute to better student performance, higher school effectiveness, and the efficiency of an entire system of education in a country [5]. If teachers do not meet expectations, educational activities in a school may not be successful.

However, despite the continuous training provided to the teachers, teaching become a less demanded profession, and teachers remain inadequate. Many graduates fail to land teaching jobs, adding to the country's unemployment and underemployment [6]. This setup can be explained by the graduates' competencies in college [7] and the inadequate training for actual scenarios in the classroom [6]. Less time is given to concentrate on the skills teachers should have in the 21st century.

The researches [8], [9] reported that teachers face challenges when teaching mathematics and science, respectively. In both subjects, teachers often feel underprepared to teach effectively because of content and pedagogical knowledge and skills issues. In support, of the report from international research, pre-service and in-service teachers handling science and technology (ST) demonstrated a lack of content knowledge, confidence to teach ST effectively, and integrate technology in the daily teaching process due to their poor attitudes and confidence [10], [11]. Likewise, in the year 2015, the National Bureau of Evaluations in Burundi reported that some teachers were spending the whole year teaching algebra and skipping geometry chapters [12]. Sunzuma and Maharaj [13] also found that even in-service teachers skip those geometry chapters because of insufficient knowledge to teach the topic. They found that 47.5% of in-service teachers were not well prepared to teach geometry due to insufficient competency in the topic.

In effect, the 2018 programme for international student assessment (PISA) indicated that the Philippines ranked second from the lowest out of 79 participating nations worldwide. This merely implies that the students' mathematics abilities are really poor in the Philippines [14]. The trends in international mathematics and science study (TIMSS) in 2019 also reported that only 19% of grade learners in the Philippines met the minimum benchmark level required in math. Meanwhile, the World Bank report released in 2021 pointed out that Filipino students ranked low in the multilateral lender's learning assessment in math, science, and reading.

In this regard, higher education institutions (HEI) need to revisit the curriculum to align with the needs of society and industry [15]. Thus, HEIs in the Philippines need to produce future teachers who are superb in content as well as in pedagogy. Universities must continuously provide pre-service teachers with appropriate and adequate knowledge, pedagogic skills, and readiness to make proper use of instructional facilities, suitable attitudes towards teaching, developing self-confidence and good attitudes, thus preparing them to be effective [4]. Moreover, Buedron [16] argued that teachers must possess certain competence in both professional and personal aspects. Professional competencies are both academic and pedagogical. Academic competencies refer to the teacher's knowledge of the subject matter. Pedagogical competency is the art of teaching the subject, observing principles as teaching from known to unknown, concrete to abstract, and simple to complex.

Eastern Samar State University (ESSU)-Salcedo Campus, a competent teacher training institution in the province of Eastern Samar produced secondary pre-service teachers with specialization in mathematics and science under the bachelor in secondary education (BSED) program. These aspiring teachers were both exposed to content and pedagogies in their respective fields of specialization. With these, the researchers wanted to conduct this study to determine the teaching proficiency of the pre-service teachers as perceived by their cooperating teachers if they acquired the teaching competencies before they practiced the profession in the real world. Moreover, the study would help in identifying specific competency or domains that needs to be improved among pre-service teachers to produce competent and well-performing teachers, and eventually address the problems in mathematics and science education. Besides, the results of the study can empower the institution and the college to improve the program's curriculum and delivery of services such as teaching and learning based on educated and evidence-based decisions.

Therefore, the study determined the teaching proficiency of pre-service at ESSU-Salcedo Campus. Specifically, it answered the following questions: i) What is the demographic profile of the pre-service secondary teachers in terms of sex and age?; ii) What is the academic performance of the respondents in professional education and major field of specialization?; iii) What is the teaching proficiency level of the respondents as perceived by their cooperating teachers in terms of subject matter knowledge, lesson planning, classroom management, instructional strategies and motivation, communications skills, questioning skills, and professionalism?; iv) Is there a significant difference on the level of teaching proficiency of the respondents when grouped according to their demographic profile?; and v) Is there a significant relationship between the respondents' academic performance and teaching proficiency?.

2. METHOD

A descriptive–comparative and correlational research design was employed in this study. The study was descriptive because it describes the respondents' demographic profile, academic performance, and teaching proficiency. Likewise, the research was comparative, comparing the respondents' teaching proficiency across their demographic profiles. Furthermore, it was correlational because the relationship

between the respondents' academic performance and teaching proficiency was determined. The study included all 30 fourth-year pre-service secondary teachers at ESSU-Salcedo Campus and their cooperating teachers. These respondents were both exposed to content and pedagogies in their respective fields of specialization.

Meanwhile, to gather the needed data, an adapted survey questionnaire from the study of Roble *et al.* [17] was utilized. The instrument was developed and validated by all teacher education programs of the College of Policy Studies, Education and Management, Mindanao University of Science and Technology (MUST), Cagayan de Oro City. The instrument was used by the researchers to measure the level of competence of the mathematics pre-service teachers in MUST. Accordingly, all dimensions were reliable (values more than 0.70). To draw out the level of teaching proficiency of the pre-service teachers, a 5-point Likert type scale format was employed as follows: 5-advanced; 4-proficient; 3-approaching proficiency; 2-developing; and 1-beginning. The data were analyzed using frequency, percentage and mean for the descriptive part of the study such as the demographic profile of the respondents, academic performance, and teaching proficiency; t-test for comparison of the respondents' teaching proficiency across sex and age; and Pearson correlation coefficient for testing the relationship between academic performance and teaching proficiency. The level of significance was set to 5% for the t-test and Pearson correlation coefficient.

3. RESULTS AND DISCUSSION

3.1. Demographic profile of pre-service secondary teachers

This study looked into the demographic profile of the pre-service secondary teachers of ESSU-Salcedo Campus. Figures 1 and 2 show the demographic characteristics of the respondents. Figure 1 shows the sex distribution of the respondents. It can be noted that 20 or 67% of the respondents were female, and 10 or 33% were male. The result implies that at the 4th-year level of the BSED program of ESSU, female pre-service teachers dominate the Salcedo Campus more than their counterparts, the male pre-service teachers. Thus, ESSU-Salcedo is expected to produce more female math and science teachers who are globally competitive in their field.

On the other hand, the age distribution of the respondents is presented in Figure 2. Of the 30 respondents 27 or 90% are aged 22 to 34 years old, and 3, or 10% of the respondents are 18 to 21 years old. This result implies that 4th-year pre-service secondary teachers of ESSU-Salcedo Campus are dominated by pre-service teachers in the early adulthood stage but at the right age of their level of education. Hence, more mature math and science teachers are expected to be produced by the institution who are more confident, solid decision-makers, multi-taskers, and self-directed.

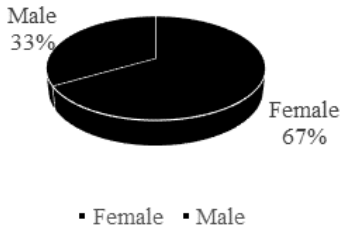

Figure 1. Sex distribution of pre-service secondary teachers

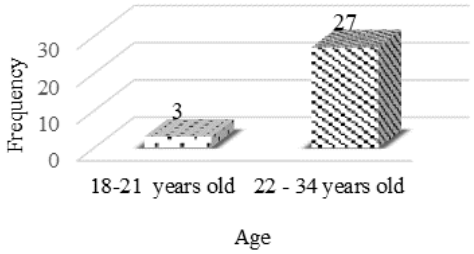

Figure 2. Age distribution of pre-service secondary teachers

3.2. Academic performance of pre-service secondary teachers

Presented in Table 1 is the academic performance of the pre-service secondary teachers. Results of the academic performance were interpreted based on the University's grading system. In terms of professional education, 23 or 76.66% of the respondents had a very good academic performance and 7 or 23.33% had an excellent academic performance which shows that all respondents exceeded the university's minimum standard for professional education courses (at least 2.2 average grade). This current result implies that pre-service secondary teachers of ESSU–Salcedo Campus met the expectations and completely understand the concepts, learning theories and modalities, teaching approaches, strategies, or techniques, and how these are applied in authentic teaching. Moreover, the pre-service teachers also acquired the necessary competencies for proper practice and behavior in their future profession.

Meanwhile, in the major field of specialization, it can be gleaned that 22 or 73.33% of the respondents had a very good academic performance, 7 or 23.33% had a good performance, and only 1 or 3.33% had an excellent academic performance. The result shows that more than 75% of the respondents exceeded the university's minimum standard for major courses (at least a 2.2 average grade). This result likewise implies that the respondents had met the expectations and had comprehensive knowledge, understanding, and competencies in mathematics and science.

Table 1. Academic performance of pre-service secondary teachers in ESSU-Salcedo Campus

Academic performance	Rating	Frequency	Percentage
Professional education			
Excellent	1.10-1.50	7	23.33
Very good	1.60-2.00	23	76.66
Total		30	100.00
Major field of specialization			
Excellent	1.10-1.50	1	3.33
Very good	1.60-2.00	22	73.33
Good	2.10-2.50	7	23.33
Total		30	100.00

* 1.00 = oustanding; 1.10-1.50 = excellent; 1.60-2.00 very good; 2.10-2.50 = good; 2.60-3.00 = fair

3.3. Teaching proficiency of pre-service secondary teachers

The teaching proficiency of 4th-year pre-service secondary teachers of ESSU-Salcedo Campus is reflected in Table 2. The teaching proficiency was measured in terms of subject matter knowledge, lesson planning, classroom management, instructional strategies and motivation, communication skills, questioning skills, and professionalism. Subject matter knowledge, Table 2 reveals those pre-service secondary teachers of ESSU-Salcedo Campus were proficient in subject matter knowledge with a mean score of 3.53, indicating that they are knowledgeable enough about their discipline or specialization. Thus, the mathematics and science content learned by the pre-service teachers in the University was adequate for them to be conversant in their field and provide good examples. However, respondents have to appraise themselves on current trends and issues to integrate life lessons to make learning experiences more effective among learners. Lee *et al.* [18] emphasized that teachers' knowledge of subject matter knowledge is a significant factor that can influence students' conceptual knowledge of the subject matter. In support, Mosabala [19] argued that the mode teachers conceptualize the subject matter influences how they transform the raw subject matter knowledge (SMK) into forms that can be easily understood by the learners. This, in turn, has an impact on students' learning when they can apply what they have learned in class to actively engage in their surroundings.

Lesson planning, the teaching proficiency of pre-service secondary teachers of ESSU-Salcedo Campus in terms of lesson planning was proficient with a mean score of 3.58. This result implies good or high skill among respondents in writing a road map of what learners need to learn and how it will be done effectively during class periods. Specifically, the result suggests that respondents demonstrate a great level in constructing or preparing lesson plans from the lesson objectives, motivation, and procedure, using multiple strategies and assessments, linking the topic to other subject matters, and providing relevant examples. Nevertheless, relating lessons to student's interests and experiences and the transitions of activities have to be considered by the pre-service teachers. The practice of faculty members of ESSU-Salcedo Campus on making lesson plans as a midterm requirement and giving them during course orientation, which provides the learners ample time to create a good lesson plan, is one factor that clearly demonstrates this finding and further explains it. Fitriati *et al.* [20] argued that planning a lesson contributes to the effectiveness of instruction. Thus, developing pre-service teachers' planning skills is essential to producing effective teachers.

Table 2. Teaching proficiency of 4th year pre-service secondary teachers in ESSU-Salcedo Campus

No.	Statement	Mean	SD	Interpretation
	Subject matter knowledge			
1.	Knowledgeable of the subject matter.	3.67	0.66	Proficient
2.	Relate lessons to everyday life.	3.43	0.68	Proficient
3.	Updated on new ideas and can impart that in the lessons.	3.43	0.63	Proficient
4.	Provides enough examples to make learning experiences more effective.	3.57	0.63	Proficient
	Weighted mean	3.53	0.55	Proficient
	Lesson planning			
1.	Defines objectives clearly.	3.57	0.68	Proficient
2.	Links subject matter to students' interests and experiences.	3.50	0.73	Proficient
3.	Identifies sequential development of activities.	3.57	0.68	Proficient
4.	Use relevant examples.	3.73	0.52	Proficient
5.	Allocates time to activities following objectives.	3.57	0.63	Proficient
6.	Indicates transition procedures from one activity to the next.	3.50	0.68	Proficient
7.	Indicates evaluation procedures	3.57	0.73	Proficient
8.	Adapts and revises lessons as the unit progresses.	3.57	0.63	Proficient
9.	Plans a variety of teaching strategies.	3.63	0.72	Proficient
10.	Relates subject matter to another knowledge.	3.57	0.63	Proficient
	Weighted mean	3.58	0.53	Proficient
	Classroom management			
1.	Establishes workable routines.	3.70	0.60	Proficient
2.	Gives clear direction before and during activities.	3.50	0.57	Proficient
3.	Administers rules consistently and fairly.	3.73	0.52	Proficient
4.	Monitors students' behavior consistently.	3.73	0.52	Proficient
5.	Creates a friendly and positive classroom climate.	3.77	0.57	Proficient
	Weighted mean	3.69	0.47	Proficient
	Instructional strategies and motivation			
1.	Gains the full attention of the learners at the beginning of the lesson.	3.63	0.67	Proficient
2.	Makes the intent of the lesson clear to the learners.	3.60	0.67	Proficient
3.	Maintains student attention during the lesson.	3.63	0.67	Proficient
4.	Executes smooth transition from one activity to another.	3.57	0.68	Proficient
5.	Checks frequently for understanding during the lesson.	3.67	0.55	Proficient
6.	Paces the lesson appropriately.	3.60	0.62	Proficient
7.	Provides a summary of the lesson content.	3.53	0.73	Proficient
8.	Re-teaches the lesson when necessary.	3.53	0.73	Proficient
9.	Provides regular reviews.	3.70	0.65	Proficient
10.	Provides interesting and meaningful assignments	3.60	0.72	Proficient
	Weighted mean	3.61	0.60	Proficient
	Communication skills			
1.	Expresses thoughts fluently.	3.56	0.68	Proficient
2.	Speaks at an appropriate rate.	3.60	0.67	Proficient
3.	Uses acceptable voice expression and pitch projection.	3.53	0.78	Proficient
4.	Uses appropriate vocabulary.	3.50	0.68	Proficient
5.	Displays command of standard grammar.	3.50	0.73	Proficient
6.	Responds appropriately to both verbal and non-verbal messages.	3.67	0.55	Proficient
	Weighted mean	3.56	0.61	Proficient
	Questioning skills			
1.	Presents questions in a logical sequence.	3.53	0.68	Proficient
2.	Uses questions as diagnostic tools.	3.50	0.57	Proficient
3.	Ask clear questions.	3.63	0.56	Proficient
4.	Distribute questions evenly among students.	3.53	0.73	Proficient
5.	Restructure questions if necessary.	3.50	0.63	Proficient
6.	Paces questions appropriately (e.g. wait time)	3.57	0.73	Proficient
7.	Acknowledge students' answers and respond with appropriate feedback.	3.63	0.56	Proficient
8.	Encourage students' questions.	3.53	0.68	Proficient
9.	Incorporates students' questions into the lesson when possible.	3.50	0.73	Proficient
	Weighted mean	3.55	0.58	Proficient
	Professionalism			
1.	Come to class on time.	3.83	0.46	Proficient
2.	Dresses appropriately at all times.	3.83	0.46	Proficient
3.	Displays willingness to learn under the cooperating teacher's guidance.	3.80	0.48	Proficient
4.	Shows emotional control.	3.83	0.46	Proficient
5.	Respects proper authority.	3.80	0.61	Proficient
6.	Demonstrates dependability.	3.77	0.63	Proficient
7.	Acts in the most appropriate manner in the presence of the students.	3.86	0.43	Proficient
	Weighted mean	3.82	0.48	Proficient
	Overall weighted mean	3.62	0.55	Proficient

* 1.00-1.80 = beginning; 1.81-2.60 = developing; 2.61-3.40 = approaching proficiency; 3.41-4.20 = proficient; 4.21-5.00 = advanced

Classroom management, regarding classroom management, the pre-service secondary teachers were rated by their cooperating teachers as proficient with a 3.69 mean score, implying that respondents can manage the classroom for learning and provide a favorable environment for student learning, including organizing the physical setup, offering alternate learning modalities, and utilizing the facilities, resources, and equipment required to effectively teach science and mathematics. Yet, giving clear direction before and during activities must be emphasized an important aspect of classroom management. According to Obispo *et al.* [21] teacher's classroom management style is an important element in encouraging students to obtain high-quality education. It can aid in choosing adequate teaching activities in the classroom. Moreover, good classroom management can create a productive classroom environment. Hence, if the classroom is poorly managed, even a carefully planned lesson may fail [22].

Instructional strategies and motivation, as indicated in Table 2, the computed mean score for instructional strategies and motivation is 3.61, which implies a proficient level among respondents in utilizing instructional procedures and motivation that enable learners to achieve the learning outcomes. Likewise, the result of the study implies that respondents were prepared and always ready to deliver the lesson by setting the mood of the learners, conducting the review, giving motivation, informing objectives, presenting and delivering the lesson, integrating formative assessment, generalizing, and providing meaningful enrichment activities. Roble *et al.* [17] recognized that for a productive learning environment to occur, classroom management must be paired with effective instructional strategies that are engaging and meaningful. In support, for learners to understand what the teacher teaches, varied instructional strategies must be applied in the classroom [23] to address the individuality of the learners in learning styles [24].

Communication skills, the pre-service teachers were also proficient in terms of communication skills with a 3.56 mean score. This new finding of the study implies that the pre-service teachers were able to establish a good language of teaching and more so the language of mathematics and science. They can express their thoughts using appropriate vocabulary and language rules and reply to students' messages. Teachers with good communication skills always make things easier especially in transmitting education, managing the classroom, and interacting with the pupils [25]. In support, Jakhanwal [26] emphasized that good communication skills of teachers promote academic success among learners and lessen the unlikely feelings during the process of teaching.

Questioning skills, in terms of questioning skills, it can be gleaned those pre-service teachers were proficient with a mean score of 3.55. This study result implies that pre-service teachers recognize the value of good questioning skills and techniques in mathematics and science lessons for it is an effective tool in motivating students to participate actively in the class and making the teaching-learning process successful. Shanmugavelu *et al.* [27] recognized questioning techniques as one of the tools for achieving objectives and stimulating students' intellectual activity. It is essential because it can encourage action, encourage students to think critically, drive them to develop clear ideas, and stimulate learning. It is also one of the ways teachers support their students' better knowledge development.

Professionalism, the teaching proficiency of pre-service teachers in terms of professionalism was rated proficient with a mean score of 3.82. Similarly, all the indicators were rated by the cooperating teachers as proficient. This result of the study infers that pre-service secondary teacher-respondents demonstrate a high regard for their soon-to-be working careers by exemplifying the good characteristics and qualities of a good professional teacher. In line with the findings, Roble *et al.* [17] argued that teachers should understand that their primary concern is their students' welfare and interests because they shape the next generation. Thus, pre-service teachers should demonstrate genuine enthusiasm for their future profession in this regard.

Overall, lastly, the overall weighted mean of the teaching proficiency of the pre-service secondary teachers of ESSU-Salcedo Campus is 3.62 interpreted as proficient. These results imply that pre-service secondary teachers demonstrate the characteristics and behavior of a mathematics and science teacher. Thus, the respondents fully understand the competencies that are required from them as future mathematics and science teachers and that they have adequately realized the expected performance level as specified in the commission on higher education (CHED) memorandum order No. 75, s. 2017. For example, you could mention whether the interpretation categories (e.g., Proficient) align with established standards or benchmarks in the field of teaching proficiency.

3.4. Difference between teaching proficiency and the pre-service secondary teachers' demographic profile variables

The difference between the pre-service secondary teachers' level of teaching proficiency in terms of their sex using t-test for independent samples with $\alpha = 0.05$ is presented in Table 3. As reflected, female pre-service secondary teachers have a higher mean score in subject matter knowledge (3.56), classroom management (3.73), questioning skills (3.57), and professionalism (3.84) indicating that they were more proficient in these dimensions compared to male pre-service teachers. Meanwhile, the male pre-service secondary teachers were more proficient in terms of lesson planning (3.59), instructional strategies and

motivation (3.63), and communication skills (3.60). However, the study found no significant difference between the two groups along all the dimensions of teaching proficiency. These results led to the failure to reject the null hypothesis.

The study of Amankwah *et al.* [28] found that male pre-teachers have a higher level of teaching efficacy compared to female pre-service teachers and found the difference to be significant. The higher the teaching efficacy, the better the teaching performance. However, Wanakacha *et al.* [29] found that gender differences did not affect teachers performing their teaching functions.

Table 3. Difference between sex and level of teaching proficiency of 4th year pre-service secondary teachers in ESSU-Salcedo Campus

Teaching proficiency	Sex (female = 20; male = 10)	Mean	t-value	p-value ($\boldsymbol{\alpha = 0.05}$)	Description
Subject matter knowledge	Male	3.45	0.517	0.609	Not significant
	Female	3.56			
Lesson planning	Male	3.59	0.095	0.925	Not significant
	Female	3.57			
Classroom management	Male	3.60	0.705	0.486	Not significant
	Female	3.73			
Instructional strategies and motivation	Male	3.63	0.148	0.883	Not significant
	Female	3.60			
Communication skills	Male	3.60	0.243	0.810	Not significant
	Female	3.54			
Questioning skills	Male	3.51	0.245	0.808	Not significant
	Female	3.57			
Professionalism	Male	3.77	0.382	0.706	Not significant
	Female	3.84			

Meanwhile, it can be noted in Table 4 those younger pre-service secondary teachers (18-21 years old) yielded a higher mean score in subject matter knowledge (3.58), lesson planning (3.67), instructional strategies, and motivation (3.80), communication skills (3.61), questioning skills (3.63), and in professionalism (4.00) implying that younger pre-service teachers were more proficient along these dimensions compared to their counterparts. On the other hand, the older pre-service secondary teachers were more proficient in classroom management (3.69). Using a t-test, the study found no significant difference between the pre-service secondary teachers' teaching proficiency and their age. The result of the study contradicts the statement of Aini *et al.* [30] that teachers' age has a particular impact on teachers' effectiveness. The teacher becomes experienced as his age advances where he sees the potential of the students and makes them understand their worth [31]. Nevertheless, Tran and Do [32] found that teachers' age and gender were insignificant in rated teaching effectiveness. Thus, students nowadays perceive these factors to be less critical in facilitating teaching effectiveness.

Table 4. Difference between age and level of teaching proficiency of 4th year pre-service secondary teachers in ESSU-Salcedo Campus

Teaching proficiency	Age (18-21 yrs. old = 3; 22-35 yrs. old = 27)	Mean	t-value	p-value ($\boldsymbol{\alpha = .05}$)	Description
Subject matter knowledge	18-21 years old	3.58	0.189	0.852	Not significant
	22-34 years old	3.52			
Lesson planning	18-21 years old	3.67	0.303	0.764	Not significant
	22-34 years old	3.57			
Classroom management	18-21 years old	3.67	0.076	0.940	Not significant
	22-34 years old	3.69			
Instructional strategies and motivation	18-21 years old	3.80	0.583	0.564	Not significant
	22-34 years old	3.59			
Communication skills	18-21 years old	3.61	0.147	0.884	Not significant
	22-34 years old	3.56			
Questioning skills	18-21 years old	3.63	0.254	0.801	Not significant
	22-34 years old	3.54			
Professionalism	18-21 years old	4.00	0.688	0.497	Not significant
	22-34 years old	3.80			

3.5. Relationship between level of teaching proficiency and academic performance of pre-service secondary teachers

Reflected in Table 5 is the relationship between the teaching proficiency of 4th-year pre-service secondary teachers and their academic performance in professional education and major field of specialization using Pearson's correlation coefficient. As presented, a significant relationship between respondents' academic performance in professional education and level of teaching proficiency ($p = 0.000$) was found. Similarly, the correlation between academic performance in the field of specialization and the level of teaching proficiency was found to be significant ($p = 0.001$).

These results imply that the academic performance of the pre-service secondary teachers in both professional education and major fields of specialization were moderately good predictors of teaching proficiency. Thus, the better the academic performance, the more proficient the level of teaching performance. In support, Meneses *et al.* [33] found a significant relationship between the academic performance of pre-service teachers in their field studies (FS) and practice teaching (PT) which shows that grades are directly proportional with each other.

Table 5. Relationship between academic performance and level of teaching proficiency of 4th year pre-service secondary teachers in ESSU-Salcedo Campus

Independent variables	Dependent variables	Index of correlation (pearson's correlation coefficient)	p-value ($\alpha = 0.05$)	Interpretation	Strength of correlation
Academic performance (professional education)	Level of teaching proficiency	0.603	0.000	Significant	Moderate
Academic performance (major field of specialization)	Level of teaching proficiency	0.577	0.001	Significant	Moderate

4. CONCLUSION

The researchers conclude that the pre-service secondary teachers of ESSU-Salcedo Campus are ready to teach mathematics and science subjects as supported by their teaching proficiency. Respondents were proficient in subject matter knowledge, lesson planning, classroom management, instructional strategies and motivation, communication skills, questioning skills, and professionalism. Thus, they demonstrated a full understanding of the competencies, characteristics, and behavior required of them as future mathematics and science teachers. However, to make them fully prepared and ready, it is recommended that pre-service secondary teachers be exposed more to the contents that they find difficult and to the different innovative teaching strategies and principles applied in teaching science and mathematics especially those who have low academic performance through remedial classes. As found in this study, improving academic performance will improve teaching proficiency. Current trends and strategies in education accompanied by authentic activities, considering learners' diversity and multiple intelligences can be applied in the teaching and learning of mathematics and science. Moreover, it is recommended that a similar study be conducted on a larger population to verify the result of the study. As noted, only 30 respondents were utilized in the study due to the limited number of mathematics and science pre-service teachers enrolled in the locale.

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