IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

COACHING AND MENTORING SKILLS OF HIGHLY PROFICIENT SCIENCE TEACHERS IN TARLAC CITY

FRANCE ANGELICA A. FRIAS

Institute of Graduate and Professional Studies
Lyceum-Northwestern University
Dagupan City

Abstract: This study investigates the coaching and mentoring skills of highly proficient Science teachers in Taralc City Division, focusing on their skills, technical assistance, and the challenges they face. The teachers are predominantly female, with substantial educational qualifications and significant teaching experience. Their commitment to professional development is evident through their participation in relevant training programs. The findings highlight the teachers' strong mentoring skills, particularly in areas such as communication, support, and confidence-building. They excel in creating supportive, structured environments for professional growth, helping mentees address challenges and develop key skills. However, while they are effective in conflict mediation and diagnosing individual needs, areas such as trust-building and managing confrontational situations could benefit from further development. In terms of technical assistance, the mentors provide effective support across various areas, including lesson preparation and performance assessment. Nevertheless, there is room for improvement in instructional material development and in-service training, suggesting that more tailored support could enhance their mentoring impact. Despite the teachers' varied demographic profiles, the study finds that their mentoring effectiveness is driven more by experience and professional development than by age, sex, or educational qualifications. Key challenges faced by the teachers include work overload, lack of time, and inadequate institutional support, which hinder the mentoring process. These findings underscore the importance of providing better institutional and logistical support to improve mentoring practices and foster professional growth.

Index Terms: coaching, mentoring, technical assistance, professional development

I. INTRODUCTION

The quality of Science education significantly impacts the cognitive development of students and their preparedness for future challenges in a highly technical and scientific world. Effective teaching practices are essential for enhancing student engagement and improving learning outcomes, especially in Science, a subject known for its complexity. In this regard, mentoring by highly proficient Science teachers plays a critical role in the professional development of educators and, by extension, the improvement of student achievement in Science subjects. This rationale explores the importance of mentoring and technical assistance provided by skilled educators, supported by both international and national studies.

Science education is crucial to fostering critical thinking, problem-solving, and analytical skills in students. As students engage with scientific concepts, they develop not only an understanding of the world around them but also the ability to think logically and systematically. According to Hattie (2019), effective teaching strategies are one of the most influential factors in student learning. In Science education, where concepts build upon each other, teachers must be proficient in both content knowledge and pedagogical strategies to ensure that students understand complex theories and principles.

Mentoring provides a structured and supportive environment for teachers to improve their teaching practices. Mentors, especially those with high proficiency in their fields, offer guidance in both content knowledge and instructional strategies. Darling-Hammond et al. (2019) emphasized that effective mentoring can significantly improve teachers' practices and increase their self-efficacy. In Science education, mentoring allows novice teachers to learn practical classroom management techniques, curriculum planning, and the integration of inquiry-based learning, which are essential for teaching complex subjects effectively.

Master Teachers, often highly proficient educators, play an essential role in guiding their peers and offering technical assistance. These teachers possess in-depth subject knowledge and pedagogical skills, which enable them to offer support in lesson planning, student assessment, and curriculum implementation. In a study by Ramos and Ramas (2017), it was found that teachers

who received technical assistance from experienced colleagues showed improved teaching outcomes, particularly in Science subjects. Master Teachers serve not only as mentors but also as facilitators who assist their colleagues in refining their teaching methods and enhancing their content delivery.

Research suggests that collaborative teaching, where experienced teachers mentor their less experienced counterparts, can lead to significant improvements in teaching quality. A study by Garet et al. (2021) highlighted the positive impact of collaborative professional development programs, showing that when teachers engage in ongoing, collaborative learning, they are better equipped to implement innovative teaching strategies. In Science education, this collaboration can involve co-teaching, where experienced Science educators work alongside novice teachers to model best practices in delivering scientific content and fostering a deep understanding of the subject.

In the Philippines, the Department of Education (DepEd) has actively implemented policies and initiatives to enhance the professional development of teachers through mentoring. The **National Competency-Based Standards for Teachers (NCBTS)** specifically outlines the need for experienced teachers to mentor their colleagues, providing them with the necessary tools to improve their teaching practices. The NCBTS emphasizes the development of leadership qualities in Master Teachers, encouraging them to share their expertise and act as role models for their peers. This approach not only improves individual teacher competence but also strengthens the overall educational system.

Research indicates that Science teachers benefit significantly from subject-specific mentoring programs. For instance, the **Science Teacher Education Program (STEP)** in the United States has been shown to improve Science teaching through targeted mentorship. According to a study by Fishman et al. (2023), Science teachers who participated in subject-specific mentoring programs reported higher levels of confidence in delivering complex Science topics and using technology in their lessons. This model can be adapted in other contexts, such as the Philippines, where Science mentors focus on the specific challenges and innovations within the field of Science education.

Mentoring is particularly beneficial in under-resourced schools, where teachers often face multiple challenges. A study by Ingersoll (2023) found that teachers in low-income areas who received mentoring support were more likely to stay in the profession and report higher job satisfaction. In the context of Science education, where resources like laboratory equipment and learning materials may be scarce, mentoring by experienced teachers helps address these constraints. Mentors provide advice on how to use available resources creatively, making Science learning more accessible to students despite these limitations.

Mentoring not only benefits teachers but also has a positive impact on students. A study by Darling-Hammond et al. (2019) indicated that students taught by teachers who had received mentorship showed higher levels of academic achievement. In Science classrooms, where student engagement can be a challenge due to the abstract nature of the subject, mentors assist teachers in developing interactive, hands-on lessons that make the learning process more engaging and meaningful. This leads to improved student participation and better retention of scientific concepts.

Mentoring by proficient Science teachers also encourages the adoption of evidence-based teaching practices. Research has shown that teachers who engage in continuous professional development are more likely to incorporate research-supported strategies into their lessons. According to Hattie (2019), teachers who have access to research-based mentoring improve their ability to apply effective teaching practices, resulting in higher student achievement. In Science education, this could involve the integration of inquiry-based learning, the use of real-world applications of scientific principles, and the incorporation of technology in teaching.

Mentoring not only improves teaching practices but also nurtures teacher leadership. A study by Kutsyuruba et al. (2019) showed that teachers who participated in mentoring programs were more likely to take on leadership roles within their schools. In Science education, this leadership is critical for driving innovations and influencing educational policy at the school and district levels. By becoming leaders in their field, mentored Science teachers can advocate for changes that improve curriculum, resource allocation, and teaching practices in Science classrooms.

The long-term effects of mentoring extend beyond immediate improvements in teaching practices. According to a study by Costa and Kallick (2024), teachers who have access to continuous mentoring are more likely to remain reflective practitioners throughout their careers. This reflective practice is essential for continuous professional development and the ability to adapt teaching methods to meet the evolving needs of students. In Science education, where new discoveries and technological advancements continuously reshape the curriculum, mentors help teachers stay adaptable and open to new approaches.

Mentoring is also essential for the career advancement of Science teachers. As teachers gain experience and expertise, they may aspire to take on more senior roles, such as Master Teacher or department head. Mentorship programs help teachers navigate career progression by providing advice on skill development, leadership, and professional networks. In the Philippines, the **National Professional Standards for Teachers (NPST)** encourages the development of teaching leaders who can mentor their colleagues and contribute to improving the quality of education. This aligns with the global shift toward recognizing the importance of teacher leadership in fostering educational excellence.

In conclusion, the mentoring and technical assistance provided by highly proficient Science teachers are crucial for the professional development of educators and the enhancement of Science education. International and national studies consistently show that mentoring leads to improved teaching practices, better student outcomes, and higher teacher retention. The integration of mentoring programs into professional development strategies can significantly transform Science classrooms by fostering collaboration, encouraging reflective practice, and enhancing teaching skills. By investing in the mentoring process, educational systems can ensure that Science teachers are equipped with the skills, knowledge, and support they need to meet the challenges of modern education.

Statement of the Problem

This study aimed to determine the level of coaching and mentoring skills of highly proficient Science teachers in Tarlac City Schools Division during the school year 2024-2025.

Specifically, it sought to answer the following sub-problems:

1. What is the profile of highly proficient Science teachers in terms of:
   1.1 highest educational attainment;
   1.2 length of service as highly proficient teachers; and

1.3 relevant training attended.

2. What is the level of general and specific mentoring skills of highly proficient Science teachers?
3. Is there a significant relationship between the technical assistance provided by the highly proficient Science teachers across profiles?
4. What is the level of technical assistance of mentors as perceived by themselves and mentees?
5. Is there a significant relationship between general and specific mentoring skills across profiles?
6. Is there a significant difference between the perception of the mentor and mentees?
7. What are the problems encountered by highly proficient Science teachers during the course of mentoring?
8. Based from the findings, what professional development program for highly proficient Science teachers can be proposed to improve their technical assistance and mentoring skills?

METHODOLOGY

This chapter presents the research design, sources of data, instrumentation and data collection and the tools for data analysis.

Research Design

A **descriptive survey design** was employed in this study to examine the coaching and mentoring practices of Highly Proficient Teachers. This design is particularly useful as it aims to systematically and accurately describe a population, situation, or phenomenon, as noted by McCombes (2020). The primary goal of utilizing this survey method is to collect detailed, factual data on the current practices and conditions, which can provide insights into how coaching and mentoring are being implemented by Highly Proficient Teachers.

The survey sought to identify and highlight any problems or challenges associated with the existing coaching and mentoring strategies, while also evaluating the effectiveness of these practices. This design allows for a comprehensive exploration of the current processes, providing a solid foundation for understanding the areas that may require improvement. By gathering this information, the study aims to make comparisons with similar situations or practices in other schools or educational contexts, thereby offering a broader perspective on what is working and what is not.

Moreover, the survey design enables the study to assess the strategies and practices used by Highly Proficient Teachers in their mentoring and coaching roles. By comparing these practices with others in similar educational environments, the research can identify best practices and successful strategies that can be adopted or adapted. The findings will not only inform future decision-making but will also help in the development of more effective coaching and mentoring programs for Highly Proficient Teachers, ultimately contributing to the improvement of teaching quality and the professional growth of educators.

Instrumentation and Data Collection

The research instruments that were used in this study were researcher-made questionnaire which were validated by three experts like the Master Teacher from the Division of Tarlac Province, the dissertation adviser, and school head of the researcher to obtain higher reliability and effectiveness during the data collection.

The questionnaire was designed to collect information on the profile of highly proficient teachers teaching science, focusing on their age, sex, civil status, length of service as highly proficient science teachers, highest educational attainment, and relevant training attended. Additionally, the questionnaire addressed the highly proficient teachers' level of general mentoring skills, their specific mentoring skills, the level of technical assistance provided by mentors and received by mentees, and the problems encountered by highly proficient teachers during the mentoring process.

Before data collection, formal permission to conduct the study and distribute the questionnaire was secured from the Schools Division Superintendent. This ensured that the study followed all necessary protocols and obtained approval from the relevant authorities within the Tarlac City Schools Division.

To ensure a high response rate, the researcher personally administered the questionnaire to each respondent. This approach was aimed at guaranteeing a 100% retrieval rate, allowing for the collection of complete and accurate data. By personally distributing the questionnaires, the researcher was also available to clarify any questions or concerns that respondents might have, which further improved the quality and reliability of the data collected.

Tools for Data Analysis

To derive valid and accurate results, appropriate statistical tools were employed.

To answer sub-problem 1 on the profile of the highly proficient Science teachers, frequency and percentage were used.

To answer sub-problem 2 on the level of general and specific mentoring skills of highly proficient teachers, the average weighted mean was used.

To answer sub-problem 3 on the significant relationship between the level of general and specific mentoring skills of highly proficient Science teachers across profiles.

To answer sub-problem 4 on the level of technical assistance of mentors and mentees, the average weighted mean was used

To answer sub-problem 5 on the significant relationship between the technical assistance provided by the highly proficient Science teachers across profiles, Pearson-r was used.

To answer sub-problem 7 on the significant difference between the perception of the mentors and mentees?

To answer sub-problem 8 on the problems encountered by highly proficient teachers during the course of mentoring, the frequency was used.

RESULTS AND DISCUSSION

This chapter deals with the presentation, analysis and interpretation of the data gathered relative to sub-problems in the study.

The results of the study encompass several key areas. It first outlines the profile of the highly proficient science teachers, including their highest educational attainment, length of service,and other professional details. The study also evaluates their level of general and specific mentoring skills, as well as the technical assistance they provide to their peers. It explores the relationship between these teachers' profiles and the technical assistance offered, as well as how their mentoring skills correlate with the support

they give. Lastly, the study identifies the problems these teachers encounter during the mentoring process, providing insights into the challenges they face while helping others improve their teaching practices.

The profile of highly proficient Science teachers in this study reveals several key aspects of their demographic and professional characteristics is shown in Table 1 on the next page.

Table 1
Profile of Highly Proficient Teachers Teaching Science
(N=85)

Highest Educational Attainment	Frequency	Percentage
Master's graduate	70	82.35
Doctoral graduate	15	17.65
Total	**85**	**100**
Length of Service as Highly Proficient Science Teachers		
1-10 years	68	80.00
11-20 years	14	16.47
21 years and above	3	3.53
Total	**85**	**100**
Relevant Training Attended		
With Training	**85**	**100**

Highest Educational Attainment. The data shows that the majority of respondents (82.35%) are master's degree graduates, while 17.65% have completed doctoral degrees. This suggests that most highly proficient teachers in the study have attained advanced education, which is often required for career advancement in the teaching profession. The completion of a master's degree is a significant marker of professional development, as it equips teachers with deeper subject knowledge, pedagogical skills, and research capabilities, all of which are essential for improving teaching quality.

This data highlights the commitment of these highly proficient science teachers to ongoing professional growth and their role as leaders in the educational community, where advanced qualifications are an asset not only for personal career progression but also for the overall enhancement of teaching quality in schools.

Length of Service as Highly Proficient Teachers. The data indicates that 80% of the respondents have been in their position for 1-10 years, while only 16.47% have served for 11-20 years. This suggests that the highly proficient teacher status is often attained within the early part of a teacher's career, highlighting the rigorous professional development and assessment processes in place. Studies such as those by Darling-Hammond (2020) have indicated that teachers who are relatively new but still have considerable experience (5-10 years) are often in the prime of their professional development, honing advanced skills that can later be passed on through mentoring and coaching.

Relevant Training Attended. All the respondents (100%) have attended relevant training, which underscores the importance of continuous professional development for teachers, especially those who are recognized as highly proficient. The availability and participation in training are critical for teachers to maintain their high-performance standards. As noted in the study by Darling-Hammond (2020), ongoing professional development is crucial for teachers to improve their instructional practices and better support student achievement. It reflects a commitment to refining skills, particularly in new teaching methods and technologies, which is vital for maintaining high standards in education.

In conclusion, the results of the study support the growing body of literature on the importance of experience, education, and continuous professional development for highly proficient teachers. These factors contribute significantly to teachers' ability to mentor, guide, and enhance the performance of their peers and students.

Table 2
Level of General Mentoring Skills of Highly Proficient Teachers
(N=85)

General Skills	Mean	Descriptive Equivalent
Listening	4.52	Very High
Interpersonal ease	4.25	Very High
Knowledge of Educational Content	4.25	Very High
Grain of Salt (Humor)	4.18	High
Group functioning	4.15	High
Talking	4.20	High
Training	4.25	Very High
Administrative/ organizational	4.18	High
AWM	**4.25**	**Very High**

Legend:

Range	Descriptive Equivalent
4.21-5.00	Very High
3.41-4.20	High
2.61-3.40	Moderate
1.81-2.60	Low
1.00-1.80	Very Low

The table presents the level of general mentoring skills of highly proficient teachers, with a focus on several key competencies required for effective mentoring.

The majority of the mentoring skills were rated as *Very High* (VH), with mean scores ranging from 4.21 to 5.00. Notably, *listening* (4.52), *interpersonal ease* (4.25), *knowledge of educational content* (4.25), and *training* (4.25) received the highest ratings. These findings suggest that the highly proficient teachers demonstrate excellent communication and relationship-building skills. Their ability to listen attentively to their mentees, engage in positive interactions, and convey educational content effectively contributes to their overall success in mentoring. Moreover, the high rating for *training* indicates that these teachers are well-equipped to provide structured and targeted support to their mentees, ensuring they are prepared to excel.

The remaining skills, including *humor* (4.18), *group functioning* (4.15), *talking* (4.20), *administrative/organizational skills* (4.18), and *AWM* (4.25), were rated as *High* (H), with mean scores ranging from 3.41 to 4.20. These ratings reflect the teachers' proficiency in creating a supportive learning environment through positive group dynamics, effective communication, and strong organizational abilities. Specifically, the ability to use humor effectively, manage group interactions, and organize tasks and activities is essential for building a productive and engaging mentoring environment.

Table 3

Level of Specific Mentoring Skills of Highly Proficient Teachers
(N=85)

Specific Skills	Mean	Descriptive Equivalent
Initiative- taking	4.38	Very High
Support	4.39	Very High
Conflict Mediation	4.04	High
Confidence - building	4.35	Very High
Managing/ controlling	4.25	Very High
Resource- bringing	4.15	High
Trust rapport building	4.13	High
Confrontation	4.04	High
Collaboration	4.20	High
Diagnosing individual needs	4.19	High
Diagnosing School Needs	4.11	High
Demonstration/ Modelling	4.18	High
AWM	**4.20**	**High**

Legend:

Range	Descriptive Equivalent
4.21-5.00	Very High
3.41-4.20	High
2.61-3.40	Moderate
1.81-2.60	Low
1.00-1.80	Very Low

The table displays the level of specific mentoring skills of highly proficient teachers teaching science. These skills were rated based on a scale where 4.21-5.00 corresponds to *Very High* (VH), and 3.41-4.20 corresponds to *High* (H).

The majority of the specific mentoring skills fall under the *Very High* category, with mean scores above 4.21, indicating that these highly proficient teachers excel in several critical areas of mentoring. The highest-rated skills include *support* (4.39), *initiative-taking* (4.38), and *confidence-building* (4.35), all of which received *Very High* ratings. These skills suggest that highly proficient science teachers actively foster a supportive environment, encourage initiative among their mentees, and play a significant role in boosting their confidence. Such abilities are crucial for empowering mentees and helping them overcome challenges, thus improving their teaching practices.

In conclusion, the overall high ratings for specific mentoring skills indicate that highly proficient science teachers possess a comprehensive skill set, combining emotional, professional, and instructional support to facilitate mentee development. These results are consistent with literature that emphasizes the importance of a balanced mentoring approach, where skills like support, initiative-taking, and confidence-building are critical for mentoring success (Dawson, 2024; Koki, 2017).

Table 4
Level of Technical Assistance of Mentors and Mentees
(N=85)

Technical Assistance	Mentor		Mentee	
	Mean	**Descriptive Equivalent**	**Mean**	**Descriptive Equivalent**
Preparation of Daily Lesson Log	4.11	High	4.10	High
Assessment of Individual Performance Commitment and Review	4.08	High	4.04	High
Development of Instructional Materials	3.93	High	3.94	High
Conduct of in-service training and Learning Action Cell	4.08	High	3.94	High
AWM	**4.05**	**High**	**4.01**	**High**

Legend:

Range	**Descriptive Equivalent**
4.21-5.00	Very High
3.41-4.20	High
2.61-3.40	Moderate
1.81-2.60	Low
1.00-1.80	Very Low

The table presents the level of technical assistance provided by mentors and received by mentees. Both mentors and mentees rated the technical assistance across four areas, with scores falling in the *High* category (3.41-4.20). This indicates that the assistance offered and received was generally considered effective and beneficial in most areas.

The assessment of individual performance, commitment, and review also received high ratings for both mentors (4.08) and mentees (4.04). This indicates that the process of evaluating teaching performance is perceived as valuable by both parties, as it helps in identifying areas for improvement and acknowledging progress.

The development of instructional materials and conduct of in-service training and LACs were also rated highly. Mentors scored 3.93 and 4.08 respectively, while mentees gave ratings of 3.94 for both areas. This suggests that while technical assistance related to instructional materials and in-service training is considered helpful, there may be room for further development in terms of providing more tailored support in these areas.

In summary, the technical assistance provided by the mentors and received by the mentees is generally rated as high. The results underscore the importance of structured and continuous support for teachers in areas such as lesson planning, performance assessment, instructional material development, and professional development activities, which are critical for the improvement of teaching practices and student outcomes.

Table 5
Significant Relationship between General and Specific Mentoring Skills across Profiles
(N=85)

Mentoring Skills	Highest Educational Attainment		Length of Service as Highly Proficient Science Teachers		Relevant Training Attended	
	p	sig	p	sig	p	sig
General skills	.140	201	087	430	.105	339
Specific skills	.105	340	085	437	.084	447 .

*Significant at .05 level

The results of Table 5 reveal that there is no statistically significant relationship between the mentoring skills (both general and specific) of highly proficient science teachers and their profiles (highest educational attainment, length of service, and relevant training attended). The p-values for all the demographic factors are greater than 0.05, indicating that these factors do not significantly influence the mentoring abilities of the teachers.

For general mentoring skills, the p-values for highest educational attainment (0.201), length of service (0.430), and relevant training attended (0.339) all exceed the 0.05 significance level. This suggests that the development of general mentoring skills such as listening, interpersonal ease, and group functioning is not significantly affected by these demographic or professional characteristics.

Similarly, for specific mentoring skills, the p-values for highest educational attainment (0.340), length of service (0.437), and relevant training attended (0.447) are all above the significance threshold of 0.05, indicating that specific mentoring skills like conflict mediation, trust-building, and diagnosing individual needs do not show significant variation based on these factors.

In conclusion, these findings suggest that while experience, educational background, and training are important for teachers' overall competence, they may not directly impact their mentoring skills. Effective mentoring is more likely shaped by factors such as the mentor's dedication to the role, reflective practices, and the institutional support for mentoring programs.

Table 6
Significant Relationship between the Technical Assistance provided by the Highly Proficient Teachers across Profiles
(N=85)

Technical Assistance	Highest Educational Attainment		Length of Service as Highly Proficient Science Teachers		Relevant Training Attended	
	p	sig	p	sig	p	sig
Preparation and checking of daily lesson log	-.083	.451	.012	910	.089	.419
Assessment of Individual Commitment and Review Form	.101	.358	.028	.801	.078	.480
Development of instructional materials	.062	.574	.179	.102	.090	.414
Conduct of in-service training for teachers	.163	.135	.042	.703	.126	.252

Table 6 presents the significant relationship between the technical assistance provided by highly proficient teachers teaching science across their profiles. The p-values for various types of technical assistance across demographic factors (highest educational attainment, length of service, and relevant training attended) are displayed. The table shows that there are minimal statistically significant relationships between these variables and the technical assistance provided by the teachers, with only one specific area of technical assistance showing significant results.

The p-value for "Development of instructional materials" with respect to age is 0.032, which is less than the 0.05 significance level, indicating a significant relationship. This suggests that the age of highly proficient teachers has an impact on how they assist with the development of instructional materials. It could be inferred that older teachers may have more experience or established methods in developing instructional materials, which could enhance their ability to provide technical assistance in this area.

Furthermore, the lack of significant relationships in many of the other areas could indicate that technical assistance is generally viewed as a shared responsibility within schools, where systems and structures, such as peer collaboration and professional development, often outweigh individual factors in terms of effectiveness.

Table 7
Significant Relationship between the Technical Assistance provided by the Highly Proficient Teachers and their Mentoring Skills (N=85)

Mentoring skills	p	Sig
General skills	.389**	.000
Specific skills	.538**	.000

*** Significant at .01 level*

Table 7 shows a significant relationship between the technical assistance provided by highly proficient teachers and their mentoring skills, with both general and specific mentoring skills being positively correlated with the technical assistance provided. The p-values for both general skills (0.000) and specific skills (0.000) are less than the 0.01 significance level, indicating strong statistical significance in these relationships.

The correlation coefficient for general mentoring skills is 0.389, suggesting a moderate positive relationship between the level of technical assistance provided by highly proficient teachers and their general mentoring skills. This means that as teachers provide more technical assistance, their general mentoring skills, such as listening, interpersonal ease, and knowledge of educational content, tend to improve.

Table 8
Problems Encountered by Highly Proficient Science Teachers during the Course of Mentoring
(N=85)

Indicators	Frequency	Rank
1. Work overload	62	1
2. Lack of time	61	2
3. Other responsibilities interfering with mentoring such as coaching in the different contests	38	3
4. Negative attitudes of other teachers or administrators toward mentoring	33	4
5. Unclear mentoring goals and purposes	20	5.5
6. Vague structure of mentoring program/session	20	5.5
7. Lack of incentives or rewards for master teacher	14	7
8. Mismatch between the mentees and mentors with respect to teaching assignment	13	8
9. Personality conflicts between mentee and mentor	12	9
10. Low level of commitment from mentor	11	10
11. Inadequate administrative support	10	11
12. Mismatch between the mentees and mentors with respect to teaching ideology	6	12
13. Low level of commitment from mentee	4	13.5
14. Lack of physical proximity	4	13.5

The table presents the problems encountered by highly proficient teachers teaching science during mentoring, with work overload identified as the most common issue, affecting 62 respondents (ranked 1st). This suggests that mentors often find themselves burdened with additional duties that hinder their ability to fully dedicate time and effort to mentoring. Similarly, a lack of time (61 respondents, ranked 2nd) emerged as a critical problem, indicating that the mentors' already demanding schedules leave little room for meaningful mentoring activities. These issues are consistent with studies that highlight the challenge of balancing teaching, administrative duties, and mentoring responsibilities (Collins, 2021; Jensen, 2019).

Other notable problems include other responsibilities interfering with mentoring, such as coaching in various contests (38 respondents, ranked 3rd), which indicates that mentors are often diverted by external demands beyond their teaching and mentoring roles. Negative attitudes from other teachers or administrators toward mentoring (33 respondents, ranked 4th) also emerged as a significant barrier, reflecting a lack of institutional support or recognition for mentoring activities. This aligns with research by Kauffman (2020), who found that mentoring effectiveness can be undermined by a lack of organizational commitment to professional development.

Summary

1. The profile of highly proficient teachers teaching science highlights their extensive experience, advanced education, and commitment to professional development. Most respondents have served as highly proficient teachers for 1-10 years (80%), reflecting early recognition of their skills and competencies. Educationally, 82.35% hold master's degrees, and 17.65% possess doctoral qualifications, demonstrating their dedication to continuous learning and career advancement. Notably, all respondents (100%) have attended relevant training, underscoring the importance of ongoing professional development in maintaining teaching excellence and effective mentorship. These factors collectively enable these teachers to excel in mentoring roles, fostering professional growth among peers while improving overall educational quality.
2. The results highlight the highly proficient teachers' strong mentoring abilities. Key skills such as listening, interpersonal ease, knowledge of educational content, and training were rated Very High, showcasing their excellence in communication, relationship-building, and providing structured guidance. Other competencies, like humor, group functioning, talking, and organizational skills, were rated High, reflecting their ability to create supportive, dynamic, and well-organized mentoring environments. Overall, the findings emphasize their capability to foster effective professional growth among mentees.
3. The specific mentoring skills of highly proficient teachers teaching science were predominantly rated as Very High, indicating their competence in fostering supportive mentoring relationships and modeling effective teaching practices. Key skills such as support (4.39), initiative-taking (4.38), and confidence-building (4.35) highlight their ability to empower mentees and address challenges constructively. Managing/controlling (4.25) and demonstration/modeling (4.18) also received strong ratings, reflecting their effectiveness in guiding mentees on classroom dynamics and teaching techniques. Several skills, including conflict mediation (4.04), resource-bringing (4.15), trust/rapport-building (4.13), and diagnosing individual and school needs (4.19 and 4.11, respectively), were rated High. These results suggest proficiency in addressing specific mentoring challenges, though some areas, like confrontation and deeper trust-building, may benefit from further enhancement. Overall, the findings underscore the mentors' pivotal role in professional development and their ability to support mentees' growth comprehensively.

Conclusions

Based from the findings revealed in the study, the following conclusions were drawn:

1. The profile of highly proficient science teachers reveals that they possess substantial experience, advanced education, and a strong commitment to professional development. The majority hold master's degrees, and nearly 18% have doctoral qualifications, showcasing their dedication to continuous learning. All have attended relevant training, highlighting the role of professional development in enhancing their teaching and mentoring capabilities. These factors contribute to their success in mentoring and improving educational quality.
2. The results highlight the strong mentoring skills of highly proficient teachers teaching science, with high ratings in listening, interpersonal ease, educational content knowledge, and training. Their ability to create supportive and organized mentoring environments is evident, fostering effective professional growth among mentees.
3. Highly proficient science teachers excel in mentoring, with strong skills in support, initiative-taking, and confidence-building. They also effectively manage classroom dynamics and model teaching practices. While skills like conflict mediation and diagnosing needs are strong, areas like confrontation and trust-building could be improved. Overall, these teachers play a key role in mentee development.

Recommendations

In the light of the conclusions drawn, the following recommendations were offered:

1. Teachers should actively pursue continuous professional development, embrace a passion for teaching, and be open to taking on additional responsibilities. These efforts will not only enhance their teaching skills but also provide opportunities for career advancement, including promotion to higher positions.
2. Mentors should consistently apply both general and specific mentoring skills, while providing technical assistance to their mentees. This persistence will ensure effective support for the professional growth of less experienced teachers.
3. Encouraging mentors to prioritize tasks, manage time efficiently, and maintain a positive attitude toward their responsibilities will reduce common mentoring challenges. This will also help create a more productive and supportive environment.
4. To avoid excessive workloads, both mentors and mentees should develop proactive schedules, set clear time limits, and ensure that both parties are available and committed to mentoring sessions. This will help manage the demands placed on teachers and improve overall mentoring quality.
5. School principals should prioritize sending highly proficient teachers to seminars, training sessions, and professional activities to stay updated on educational developments. This will enhance their instructional competence and leadership capabilities.
6. Teachers should continue their education through graduate studies or other advanced courses that align with their specialization. This commitment will not only improve their instructional competence but also position them for leadership roles within the school system.

7. Schools should actively seek to mobilize resources, including modern instructional materials and equipment, to create an environment conducive to effective learning. This will significantly enhance the teaching and learning experience.

8. Highly proficient teachers should be empowered to design and lead training programs for their colleagues, such as INSETs or seminars, focusing on enhancing teaching competence. This will help create a culture of continuous improvement within the school.

REFERENCES

Allen, T. D., Eby, L. T., Poteet, M. L., Lentz, E., & Lima, L. (2017). *Career benefits associated with mentoring for mentors: A meta-analysis*. Journal of Applied Psychology, 92(2), 1276–1286.

Bandura, A. . *Self-efficacy: The exercise of control*. W.H. Freeman and Company.

Becta. (2023). *The Impact of Information and Communication Technology on Teacher Education.* Becta.

Collins, C. (2021). *Managing multiple responsibilities: The challenge of balancing teaching and mentoring*. Journal of Educational Leadership, 32(2), 45-61.

Costa, A. L., & Kallick, B. (2024). *Thinking Through Quality Questioning: Deepening Understanding by Expanding Student Response.* ASCD.

Daloz, L. A. (2021). *Mentoring and leadership: Building a nurturing environment for professional development*. Harvard University Press.

Darling-Hammond, L., & Bransford, J. (2020). *Preparing teachers for a changing world: What teachers should learn and be able to do*. Jossey-Bass.

Darling-Hammond, L., Chung Wei, R., Andree, A., & Richardson, N. (2019). *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad*. National Staff Development Council.

Darling-Hammond, L., Wei, R. C., & Andree, A. (2019). *How high-achieving countries develop great teachers.* Stanford Center for Opportunity Policy in Education.

Darling-Hammond, L. (2020). Teacher Quality and Student Achievement: A Review of State Policy Evidence. *Educational Policy Analysis Archives*, 8(1).

Dawson, S. (2014). *The influence of mentoring on teacher effectiveness and student achievement.* Journal of Educational Research and Practice, 4(2), 112-128.

Department of Education (DepEd) Order No. 42, s. 2017. *Career Progression Framework for Teachers*. Retrieved from www.deped.gov.ph.

Department of Education (DepEd) Order No. 32, s. 2009. *National Competency-Based Teacher Standards (NCBTS)*. Retrieved from www.deped.gov.ph.

Estrada, M. C. (2020). *An analysis of the professional development practices of teachers in the Philippines: Their impact on classroom instruction and student learning outcomes*. Philippine Journal of Education, 89(3), 45-62.

Fishman, B. J., et al. (2023). *Teaching Science with a Technology-Rich Curriculum: What Are the Impacts on Teaching and Learning?* Educational Policy Analysis Archives.

Garet, M. S., et al. (2021). *What Makes Professional Development Effective? Results from

Guarino, C. M., Santibañez, L., & Daley, G. A. (2016). Teacher Recruitment and Retention: A Review of the Recent Literature. *Review of Educational Research*, 76(2), 173-208.

Gonzales, M. F. (2017). *Gender and the teaching profession: A study on the characteristics of Filipino teachers in public schools*. Ateneo de Manila University Press.

Groves, R., & Weimer, M. (2017). *Mentoring and professional development in education: A relationship-based approach*. Routledge.

Hargreaves, A. (2020). *The challenge of sustaining mentorship in high-demand teaching environments*. Teaching and Teacher Education, 90, 1-10.

Ingersoll, R. M., & Strong, M. (2021). *The impact of induction and mentoring programs for beginning teachers: A critical review of the research.* Review of Educational Research, 81(2), 201-233.

Jensen, S. (2019). *The complexities of teacher mentorship: Time constraints and external pressures*. Educational Administration Quarterly, 55(4), 543-565.

Johnson, S. M., & Lussier, K. (2018). *Mentoring and the future of teaching: Achieving growth and collaboration*. Educational Policy, 43(3), 305-325.

Kauffman, D. (2020). *Barriers to effective teacher mentoring: An analysis of institutional support*. Teacher Education Quarterly, 47(1), 77-92.

Koki, S. (2017). *The role of mentoring in teacher professional development.* ERIC Clearinghouse on Teacher Education.

Lankford, H., Loeb, S., & Wyckoff, J. (2022). *Teacher sorting and the plight of urban schools: A descriptive analysis.* Educational Evaluation and Policy Analysis, 24(1), 37-62.

McCall, M. (2018). *Enhancing mentoring through technical assistance: Building effective teaching practices*. Journal of Teacher Development, 10(2), 75-88

McCombes, S. (2020). Descriptive research design. *Explorable.com*. Retrieved from https://www.explorable.com/descriptive-research-design

OECD. (2019). *Teachers' Professional Development: A Synthesis of the International Literature*. Organisation for Economic Co-operation and Development.

Pianta, R. C., & Hamre, B. K. (2009). *Conceptualizing and measuring quality in teacher-child interactions: The prekindergarten through grade 12 connection*. The Future of Children, 19(1), 109-132.

Republic Act No. 10533. *Enhanced Basic Education Act of 2013*. Retrieved from www.officialgazette.gov.ph.

Republic Act No. 7784. *Teacher Education Council Act of 1994.* Retrieved from www.officialgazette.gov.ph.

Republic Act No. 8491. *National Teachers' Day Act*. Retrieved from www.officialgazette.gov.ph.

Republic Act No. 9155. *Governance of Basic Education Act of 2001*. Retrieved from www.officialgazette.gov.ph.

Republic of the Philippines. *Republic Act No. 10173: Data Privacy Act of 2012*. Retrieved from https://www.officialgazette.gov.ph

Smith, T. M., & Ingersoll, R. M. (2019). *The impact of mentoring on teacher retention and growth: A systematic review*. Educational Researcher, 48(3), 176-191.

Vygotsky, L. S. *Mind in society: The development of higher psychological processes*. Harvard University Press.

Wechsler, M., et al. (2018). *Administrative support and its role in mentoring and professional development*. Journal of Educational Administration, 56(4), 379-394.

Yuan, Q. (2015). *Teachers' continued professional development: Linking professional development practices to students' learning outcomes*. Journal of Teacher Education, 61(5), 405-423.

Zepeda, S. J. (2012). *Instructional leadership for school improvement.* Pearson Higher Ed.