Improving the Ability of Teachers to Address the Special Educational Needs of Students through Capacity-Building Program

Anthony B. Llanes[1]*, **Maria Cristina L. Llanes**[2]*

[1]Kolehiyo ng Lungsod ng Lipa, Lipa City, 4218, Batangas, Philippines
[2]Padre Valerio Malabanan Memorial School, Lipa City, 4217, Batangas, Philippines

Corresponding authors: Anthony B. Llanes, abllanes0417@gmail.com; Maria Cristina L. Llanes, maria.llanes@deped.gov.ph

Abstract: Formal educational institutions are now accommodating students with special educational needs (SEN), necessitating teachers to be adequately prepared to support these students. This study sought to evaluate teachers' proficiency and familiarity in educating students with SEN both prior to and following their participation in a capacity-building program. The study employed purposive sampling, involving ten teachers responsible for SEN students. The findings unveiled that these teachers possessed limited knowledge and experience in dealing with SEN students before the initiation of the capacity-building program. Following its implementation, the teachers exhibited a substantial enhancement in their knowledge and experience. A comparative analysis indicated a notable contrast between the two sets of data, implying the effectiveness of the capacity-building program. As a result, the researchers recommended the integration of capacity-building programs to ensure teachers are adequately prepared and equipped for their roles.

Keywords: Special educational needs (SEN); Knowledge; Experiences; Capacity-building program

1. Introduction

Enhancing the competence of teachers to cater to the educational requirements of students with special educational needs (SEN) is a fundamental component of advancing inclusive education. Students with SEN confront learning obstacles or disabilities that necessitate additional assistance for them to realize their full potential. Providing effective support for students with SEN demands specialized expertise and skills, encompassing an understanding of diverse learning styles, the adaptation of teaching methods, and the utilization of assistive technology.

The teaching experience of teachers in this study holds pivotal significance when evaluating their effectiveness and their potential to positively impact students' learning outcomes. According to research, more experienced teachers are frequently better equipped to manage classroom dynamics, adapt to varying learning

styles, and provide more tailored instruction. Experienced teachers also possess a deeper comprehension of their subject matter, enhancing their ability to communicate information effectively to students.

Investing in capacity-building programs for teachers, schools, and education systems can ensure that all students receive the support required to unlock their full potential, regardless of their individual learning needs. In this study, students with SEN of Padre Valerio Malabanan Memorial School (PVMMS) are integrated into regular classrooms. The issue of SEN in PVMMS underscores the importance of teachers' experience in handling students with SEN. Training teachers in SEN is critical for ensuring that students with learning difficulties or disabilities receive the necessary support to realize their full potential. It equips teachers with a deeper understanding of their student's unique needs and provides them with the skills and knowledge to create a supportive and inclusive learning environment. Teachers' confidence in their ability to address students' SEN is an important factor in fostering an inclusive and supportive learning environment. Addressing students' SEN is paramount to ensuring that every student has an equitable opportunity to excel academically and socially. Research has demonstrated that providing appropriate support to students with disabilities yields long-term benefits for both individuals and society. Students with disabilities who receive suitable support are more likely to complete their education, achieve better academic outcomes, and enjoy improved employment prospects.

This highlights that investing in teacher capacity-building programs can lead to positive outcomes for students with SEN while simultaneously contributing to a more inclusive and equitable society. Through capacity-building programs, teachers can learn to identify and address the unique needs of students with disabilities. They can also gain expertise in creating inclusive classrooms and providing personalized support and accommodations to ensure that every student can participate and succeed.

Over the years, there has been an increasing awareness of the importance of enhancing teachers' capacity to address students' SEN. This recognition has been prompted by the rising enrollment of students with disabilities in mainstream schools and the necessity to guarantee that these students receive the required support and accommodations for academic and social success. By investing in teacher capacity-building programs, schools can foster a more inclusive and equitable learning environment that benefits all students. Teachers equipped with the knowledge and skills to support students with disabilities can help narrow the achievement gap and ensure that every student reaches their full potential.

Capacity-building programs that enhance the ability of PVMMS teachers to address their students' SEN offer numerous advantages. Teachers who participate in these programs can acquire the knowledge and skills essential to identify and meet each student's individual needs, including those with SEN. This enables them to deliver effective and high-quality education to all students, thereby creating a more inclusive and supportive learning environment. Additionally, teachers who grasp the unique challenges faced by students with SEN can formulate suitable strategies to overcome them, resulting in more positive learning outcomes for all students, regardless of their learning abilities. By investing in capacity-building programs, schools can ensure that all students have access to the support required to achieve their full potential, ultimately elevating the quality of education, and fostering equity in education. Well-trained teachers can enhance their confidence in teaching students with SEN.

It is important to emphasize that the concept of inclusive education is grounded in the principle of non-discrimination and acknowledges that every child possesses unique needs and abilities that should be addressed to ensure their successful education. Thus, enhancing teachers' capacity to address students' SEN is a crucial step towards realizing this right. Many countries have recognized the rights of people with disabilities and have enacted laws to protect these rights, including access to education. In practice, however, teachers may lack the

necessary knowledge and skills to effectively manage students with SEN while simultaneously instructing the rest of the class. This underscores the necessity for a study to pinpoint areas where teachers require support and provide them with the necessary capacity-building programs to enhance their abilities in supporting all students, including those with SEN.

The study's objective was to confront the challenges encountered by teachers in managing diverse classrooms and guarantee that all students have access to quality education. The researchers believed that instituting a capacity-building program is essential to enhance teachers' confidence in instructing students with SEN. Capacity-building programs are designed to equip teachers with the requisite skills and knowledge to identify and address their students' individual needs. Typically, these programs encompass a variety of activities, such as training, workshops, mentoring, and coaching. In addition to imparting new skills, capacity-building programs may provide learning resources, support networks, and opportunities for collaboration with other professionals, parents, and community members.

These capacity-building programs focus on the professional development of PVMMS teachers who are responsible for students with SEN, with the ultimate aim of creating a supportive and inclusive learning environment that caters to the needs of all students. By augmenting teachers' capability to address SEN, these programs contribute to the development of inclusive education systems that guarantee equal access to education for all.

2. Literature review

This section encompasses a comprehensive examination of relevant studies and research conducted by scholars to offer a thorough discussion and extensive background information regarding the enhancement of teachers' capabilities in addressing the SEN of students through capacity-building programs. The topics covered include teaching experience, teacher training in SEN, teachers' confidence in teaching students with SEN, teacher knowledge of SEN, teachers' experience in teaching students with SEN, SEN, and capacity-building programs.

2.1. Teaching experience

Teaching experience stands as a pivotal factor in evaluating a teacher's effectiveness and capacity to positively influence students' learning outcomes. Research consistently indicates that experienced teachers are often better equipped to manage classroom dynamics, adapt to diverse learning styles, and provide more tailored education. Furthermore, experienced teachers possess a more profound grasp of their subject matter, enabling them to convey information to their students more effectively.

O'Brien *et al*. discussed in their study that field experiences are often considered a critical component of special education teacher preparation [1]. This highlights how crucial it is to give teachers relevant field-based experiences that connect theory and practice to prepare them for the teaching profession. Consequently, the researchers concluded that teacher training is indispensable to addressing students' educational needs.

2.2. Teacher training in SEN

Training for teachers in the realm of SEN is of paramount importance in ensuring that students with learning difficulties or disabilities receive the requisite support to unlock their full potential. It empowers teachers to develop a deeper understanding of their student's unique needs and equips them with the skills and knowledge to cultivate a supportive and inclusive learning environment.

According to Yuwono and Okech [2], authorities should support more teacher training and retraining for learners with disabilities and others with special needs. To foster cooperation and collaborations with other

experts, including special education specialists, therapists, and counselors, teacher training ought to go beyond the classroom. Through the promotion of a comprehensive and customized educational experience, this multidisciplinary approach improves the whole support system for students with disabilities. Additionally, to enhance instruction and learning outcomes for all kids, special education online training for K-12 schools, and educators offer evidence-based professional development and focus on actual scenarios for students [3]. The goal of this training program is to provide teachers with the information and abilities they need to establish welcoming and encouraging learning environments.

2.3. Teachers' confidence in teaching students with SEN

The confidence of teachers in their ability to address the SEN of their students holds significant weight in the creation of an inclusive and supportive learning environment. A study conducted by Dupoux *et al.* found that teachers who were more open to the idea of including students with disabilities in the general setting were more likely to provide effective instruction [4]. Teachers who feel comfortable teaching children with special educational needs are willing to include pupils with disabilities in regular classroom settings. There's a greater chance of quality education from teachers who feel comfortable meeting the varied requirements of their students. As suggested by Alquraini and Gut [5], teacher training programs that focus on imparting knowledge and practical skills pertaining to teaching students with disabilities can substantially boost teachers' confidence in their ability to effectively educate these students. This, in turn, fosters more positive attitudes toward these students and a greater willingness to provide the support and accommodations necessary for their success.

However, it is essential to acknowledge that merely offering training may not suffice to enhance teachers' confidence in addressing SEN. Kazmi *et al.* revealed teachers' self-efficacy is essential to improve student learning and foster a supportive learning environment [6]. Teachers who have faith in their capacity to change the world are more likely to encourage and enable their pupils to realize their greatest potential. To sustain teachers' confidence, ongoing support and resources are equally indispensable. Goe *et al.* demonstrated that teachers who received continuous support and resources, including coaching and access to specialized materials, were more likely to maintain their confidence in their ability to teach students with disabilities [7]. This highlights the importance of providing teachers with sustained support and resources to aid in the continued development of their skills and knowledge and the maintenance of their confidence.

2.4. Teacher knowledge of SEN

Teacher knowledge, encompassing content and pedagogy, has been demonstrated to positively impact student outcomes. Teachers with a profound understanding of their subject matter and effective instructional strategies are better positioned to engage and challenge their students, ultimately leading to higher levels of student achievement. Furthermore, teacher knowledge allows for the identification and rectification of students' misconceptions and the provision of appropriate feedback, thereby enhancing student learning. Consequently, investing in the professional development of teachers to improve their knowledge and skills is critical for elevating the quality of education and ensuring the academic success of students.

Cochran-Smith and Zeihner established that teachers' pedagogical content knowledge (PCK) is a significant component of effective teaching [8]. The study emphasized that teacher education programs should prioritize the development of teachers' PCK to enhance their ability to effectively teach subject matter. Wilson *et al.* highlighted that teachers' content knowledge and pedagogical content knowledge were substantial predictors of their effectiveness in teaching [9]. To enhance teaching quality, the study recommended that teacher education programs should focus on cultivating both content and pedagogical knowledge.

Mishra and Koehler developed a framework for teacher knowledge that encompasses content knowledge, pedagogical content knowledge, and knowledge of students and learning [10]. To enhance teaching effectiveness, the study emphasized the importance of teachers' understanding of students and the learning process. In the study by McBeth [11], it was revealed that teachers with greater knowledge of special education were better equipped to provide effective instruction to students with special needs and held greater confidence in their abilities to do so.

In summary, these studies underscored the pivotal role of teacher knowledge in enhancing student outcomes. Teacher knowledge, spanning content, pedagogy, and understanding of students and learning, is pivotal to effective teaching.

2.5. Teachers' experience in teaching students with SEN

The experiences of teachers can vary significantly due to various factors, including their subject area, the age group they instruct, the school and community environment, and the unique needs of their students. Nevertheless, common themes in teachers' experiences encompass challenges such as managing classroom behavior, addressing diverse student needs, navigating administrative responsibilities, and striking a balance between work and personal life. Simultaneously, teachers may derive satisfaction from nurturing student development, cultivating relationships with both students and colleagues and engaging in continuous professional development opportunities.

Teachers encountered several challenges in their new roles [12]. The widespread misconception that teaching is easy, non-instructional responsibilities, lack of support, managing multiple disabilities, professional isolation, parental lack of support, the difficulty of maintaining discipline in a special needs classroom, and budgetary issues are just a few of the difficulties faced by special education teachers. However, the teachers reported personal and professional growth as they learned to collaborate with special education colleagues, develop new teaching strategies, and observe positive changes in their students.

The study by Donath *et al*. provides insight into how well professional development works to assist in-service teachers in implementing inclusive education [13]. To find out how professional development affected several inclusive education-related outcome variables, the study carried out a thorough meta-analysis.

Holmqvist and Lelinge found that participation in professional development training resulted in teachers having more positive attitudes toward inclusive education [14]. By giving the information, abilities, and experiences necessary to successfully use inclusive practices, professional development plays a critical role in influencing teachers' attitudes toward inclusive education. Teachers' attitudes are likely to grow more positive as they gain the confidence and skills necessary to meet the different needs of their pupils. This will eventually help to create learning environments that are more inclusive and supportive.

2.6. Special educational needs (SEN)

SEN pertains to the requirements of children with disabilities or learning difficulties, necessitating additional assistance or specific accommodations to facilitate effective learning. These needs can encompass physical disabilities, intellectual or developmental disabilities, emotional and behavioral disorders, or sensory impairments.

Farrell and Ainscow investigated the impact of teacher training on the quality of educational provision for children with special educational needs and disabilities (SEND) [15]. Their findings suggested that SEND teacher training could enhance the quality of education for children with SEND. Florian discussed the challenges and opportunities associated with the transition to inclusive education for students with SEN [16]. The discussion

emphasized the importance of teacher training and support, as well as the need for a shift in attitudes towards disability and difference. To guarantee that students are interested in and learning from their lessons, teachers must be adaptable in their approach and willing to attempt new things, such as technology-based tools or various assessment formats [17]. To make sure that students are engaged in and learning from their lessons, teachers must be flexible. Adaptive teachers create dynamic and engaging learning experiences that meet the diverse needs of their students by integrating technology, using a variety of instructional methods, and being open to different assessment formats. This, in turn, fosters a positive and productive learning environment.

2.7. Capacity-building programs

Capacity-building programs play a pivotal role in enhancing the growth and development of individuals, organizations, and communities. These programs are designed to augment knowledge, skills, and attitudes, thereby increasing the capacity of individuals and organizations to effectively attain their goals and objectives. Such programs bring benefits to individuals by improving job performance and career prospects and to organizations by elevating productivity, competitiveness, and innovation. Moreover, capacity-building programs can foster sustainable development by enhancing the ability of communities to manage and utilize their resources more effectively. This results in increased resilience, adaptability, and success in achieving goals and contributing to various fields. Numerous studies corroborate the significance of capacity-building.

In the study by Paige *et al*., the implications for professional training to support better reading outcomes are explored. The study demonstrates that a targeted curriculum can enhance in-service teachers' understanding of fundamental reading skills and pedagogical techniques [18]. Teachers can better address the diverse needs of their students and identify and bridge learning gaps by improving their instructional practices. The study conducted by Kushwaha and Singh found that the suggested professional development approach can help teachers become more capable of providing inclusive education and can help students with a range of requirements achieve their goals [19]. Teacher capacity for inclusive education and supporting positive outcomes for students with diverse needs can probably be attributed to the following: targeted content, experiential learning opportunities, collaborative approach, feedback mechanisms, emphasis on cultural competence, assessment procedures, long-term support structures, student-centered focus, and alignment with academic objectives.

3. Research objectives

This study aimed to determine the level of teachers' knowledge and experiences in teaching students with SEN before and following the implementation of capacity-building programs. Specifically, it attempted to attain the following objectives:

(1) Determine the teachers' knowledge and experience in teaching students with SEN before the capacity-building program.
(2) Assess the teachers' knowledge and experience in teaching students with SEN after the capacity-building program.
(3) Compare the results of the teachers' knowledge and experience in teaching students with special educational needs before and after the capacity-building program.

4. Methods
4.1. Research design

In this study, the researchers employed a quasi-experimental design. The participants underwent both pre-

test and post-test evaluations of their knowledge and skills in managing students with SEN. The discrepancies between the pre-test and post-test results were examined to determine the efficacy of the capacity-building program in enhancing teachers' capability to address the needs of students with SEN.

Juckett *et al*. discovered that using academic initiatives to advance capacity-building interventions is possible [20]. Additionally, common elements of capacity-building interventions include technical assistance, knowledge-sharing activities, practical application activities, mentorship and expert consultation, and didactic activities. The post-test scores significantly exceeded the pretest scores, signifying the program's positive influence on teachers' abilities to cater to their students with disabilities.

4.2. Sampling

To evaluate the knowledge and experiences of teachers regarding SEN, ten respondents from Key Stage 1 of PVMMS were recruited. The recruitment of participants was based on data provided by the laboratory information system (LIS) coordinator of the school, specifically targeting teachers responsible for students with SEN. Given the specific characteristics being studied, purposive sampling was employed by the researchers. **Table 1** is the tabulated presentation of the number of participants in this study.

Table 1. Participants of the study

Classification	Population
Grade 1 teachers	3
Grade 2 teachers	6
Grade 3 teachers	1
Total	10

4.3. Research instrument

To gather relevant data for this research and fulfill its objectives, a questionnaire was developed. A researcher-constructed questionnaire was utilized to collect quantitative data. The questionnaire's items were formulated based on relevant literature in special education. The concepts were tailored to align with the study's objectives. The questionnaire was divided into two parts: one focused on teachers' knowledge and experience in teaching students with SEN before the capacity-building program, and the other on the same aspect after the program.

4.4. Data collection

The researchers followed a systematic data collection process. Research literature and samples of research questionnaires from prior studies were collected and used as a basis to create a questionnaire for this study. The initial draft of the questionnaire was subjected to validation for correction, modification, and enrichment. Following feedback and suggestions from validators, a subsequent draft was created and finalized for distribution.

Permission from the school principal of PVMMS to conduct the study and administer the pre-test questionnaire was sought by the researchers through a formal letter. Once permission was granted, the researchers personally distributed the questionnaires to the targeted participants. After collecting the completed questionnaires, the data were tabulated and analyzed using various statistical tools, including SPSS for the proper statistical treatment of the gathered data.

Subsequently, the capacity-building program was implemented. A resource speaker was invited to

provide training on SEN. A formal request letter to the school's division superintendent, endorsed by the school principal, was sent to the educational program supervisor (EPS) of special education (SPED) to conduct training for the participants. The letter was accepted, and the training was scheduled and conducted via Google Meet to equip the participants with knowledge about SEN.

Following the capacity-building program, the same questionnaire was distributed as a post-test. The results were tallied, and SPSS was utilized for appropriate statistical analysis. The collected data were tabulated, compared, and analyzed using varied statistical tools.

4.5. Data analysis

Data analysis in this study involved the use of weighted mean and paired *t*-tests. The weighted mean was employed to determine the overall outcomes of the responses regarding teachers' knowledge and experience in teaching students with SEN before and after the capacity-building program. The paired *t*-test was applied to compare the means of two related sets of data, specifically the pre-test and post-test, to ascertain if a significant difference existed between the two sets.

4.6. Ethical considerations

To adhere to ethical standards, the researchers considered the following:

(1) A comprehensive risk assessment was conducted to identify potential harm to participants, and appropriate measures were taken to mitigate or eliminate such risks.

(2) The privacy rights of all participants were respected, and the researchers adhered to Republic Act 10173, the Data Privacy Act of 2012. Participants' consent was obtained for the collection and processing of personal information, ensuring the confidentiality of the data gathered, which would be used solely for the research's intended purpose.

5. Results and discussions

The researchers concentrated on the analysis and interpretation of the collected data, presenting, and discussing the data in alignment with the specific questions posed in the statement of the problem.

5.1. Teachers' knowledge and experience in teaching students with SEN before the capacity-building program

Table 2 illustrates the teachers' knowledge and experience in teaching students with SEN before the capacity-building program.

As seen in **Table 2**, teachers possessed a similar level of knowledge and expertise across four domains related to teaching students with SEN before the commencement of the capacity-building program. Teachers reported having some understanding of SEN, regular communication with parents of SEN students, recognition of the importance of specific knowledge and skills for teaching SEN students, and some level of communication with parents/guardians to keep them informed about their child's progress. This aligns with previous studies like Cochran-Smith and Zeichner [8], and Wilson *et al*. [9], emphasizing the significance of teachers' PCK and content knowledge in effective teaching.

Table 2. Teachers' knowledge and experience in teaching students with special educational needs (SEN) before the capacity-building program

Teachers' knowledge and experiences	WM	VI
I…		
1. know what the term "special educational needs (SEN)" means	2.89	ME
2. communicate with parents of SEN students in my classroom regularly	2.89	ME
3. know that knowledge and skills are necessary to effectively teach SEN students	2.89	ME
4. communicate with parents/guardians of SEN students to ensure that they are informed about their child's progress	2.89	ME
5. use differentiated instruction to meet the needs of students with diverse learning needs	2.78	ME
6. can identify students with SEN in my classroom	2.67	ME
7. create a positive and inclusive learning environment for all students, including those with SEN	2.67	ME
8. can name at least three categories of SEN students	2.44	LE
9. can differentiate my teaching to meet the needs of SEN students in my classroom	2.44	LE
10. adapt my teaching style to meet the needs of SEN students	2.44	LE
11. assess and evaluate the progress of SEN students in my classroom	2.44	LE
12. can describe at least two learning strategies that are effective for students with SEN	2.33	LE
13. know what an Individualized Education Plan (IEP) is	2.33	LE
14. know of a step-by-step approach to meet their needs	2.33	LE
15. know the strategies to be used to manage challenging behavior in SEN students	2.33	LE
16. can understand their behavior to overcome some learning obstacles or disability	2.33	LE
17. provide assistance and suitable ways for the child's social and intellectual development	2.33	LE
18. can name at least two assistive technologies that are used to support SEN students in the classroom	2.22	LE
19. use assistive technology to support SEN students in my classroom	2.22	LE
20. collaborate with other professionals (e.g., occupational therapists and speech therapists) to support the needs of SEN students in my classroom	2.11	LE
Composite mean	2.50	LE

In contrast, the table revealed the bottom three areas where teachers indicated a lower level of knowledge and expertise, specifically related to assistive technologies in the classroom to support SEN students, and collaboration with other experts such as occupational therapists and speech therapists. This suggests that additional training and support are required in these areas to effectively address the needs of students with SEN in the classroom. These findings underscore the importance of enhancing teachers' skills and knowledge to overcome the challenges identified in a previous study [12].

The overall result indicates that the surveyed teachers had a relatively low level of knowledge and expertise in teaching students with SEN. Therefore, it is crucial to design a comprehensive capacity-building program for PVMMS teachers to address their specific needs and ensure successful support for students with diverse needs.

5.2. Teachers' knowledge and experience in teaching students with SEN after the capacity-building program

Table 3 presents the teachers' knowledge and experience in teaching students with SEN after the capacity-building program.

Table 3. Teachers' knowledge and experience in teaching students with special educational needs (SEN) after the capacity-building program

Teachers' knowledge and experiences	WM	VI
I…		
1. communicate with parents/guardians of SEN students to ensure that they are informed about their child's progress	3.60	GE
2. create a positive and inclusive learning environment for all students, including those with SEN	3.60	GE
3. know what the term Special Educational Needs (SEN) means	3.50	GE
4. communicate with parents of SEN students in my classroom regularly	3.50	GE
5. can differentiate my teaching to meet the needs of SEN students in my classroom	3.50	GE
6. can describe at least two learning strategies that are effective for students with SEN	3.50	GE
7. use differentiated instruction to meet the needs of students with diverse learning needs	3.40	GE
8. can name at least three categories of SEN students	3.30	GE
9. know that knowledge and skills are necessary to effectively teach SEN students	3.30	GE
10. adapt my teaching style to meet the needs of SEN students	3.30	GE
11. know the strategies to be used to manage challenging behavior in SEN students	3.30	GE
12. can understand their behavior to overcome some learning obstacles or disability	3.30	GE
13. provide assistance and suitable ways for the child's social and intellectual development	3.30	GE
14. can identify students with SEN in my classroom	3.20	ME
15. use assistive technology to support SEN students in my classroom	3.20	ME
16. assess and evaluate the progress of SEN students in my classroom	3.10	ME
17. collaborate with other professionals (e.g., occupational therapists and speech therapists) to support the needs of SEN students in my classroom	3.10	ME
18. know what an Individualized Education Plan (IEP) is	3.00	ME
19. know of a step-by-step approach to meet their needs	3.00	ME
20. can name at least two assistive technologies that are used to support SEN students in the classroom	3.00	ME
Composite mean	3.30	GE

The results indicate a significant improvement in teachers' ability to create a positive and inclusive learning environment, particularly for students with SEN. The program's emphasis on communication with parents/guardians of SEN students has led to enhanced collaboration between teachers and parents, resulting in increased confidence among teachers and improved outcomes for SEN students. Additionally, the program has equipped teachers with the necessary skills and knowledge to cater to the diverse learning needs of all students. The findings suggest that the capacity-building program was successful in enhancing teachers' knowledge of SEN, potentially leading to more effective teaching approaches and improved outcomes for SEN students.

The study's results are supported by Donath *et al.* [13], which provides insight into how well professional development works to assist in-service teachers in implementing inclusive education. The study found out how professional development affected several inclusive education-related outcomes and carried out a thorough meta-analysis. The results of this study are relevant to the understanding and expertise of educators in instructing children with special educational needs (SEN) subsequent to the capacity-building initiative,

since professional development initiatives have the potential to augment teachers' competencies and expertise, ultimately elevating student achievements.

In conclusion, the capacity-building program has substantially improved teachers' understanding and skills in addressing the unique learning needs of students with SEN, leading to more effective teaching approaches and better outcomes for SEN students. These findings suggest the development of professional development programs and training initiatives to further enhance PVMMS teachers' abilities to support students with special needs effectively.

5.3. Comparison of results before and after the capacity-building program

Table 4 presents a comparison of the results for teachers' knowledge and experience in teaching students with SEN before and after the capacity-building program.

Table 4. Comparison results of teachers' knowledge and experience in teaching students with SEN before and after the capacity-building program

Computed value	P value	Decision on H_0	Interpretation
3.098	0.013*	Reject	Significant

*Significant at $P < 0.05$.

The comparison shows a statistically significant improvement, as indicated by a P value of 0.013, which signifies a beneficial influence of the program. The study aligns with the findings of previous studies [8,14], emphasizing the importance of professional development and training for special education teachers. Continuous learning and improvement are critical for ensuring that students with special needs receive the highest quality education. This research suggests that teachers can benefit from additional training and support in specific areas related to special education. Thus, investing in professional development programs and ongoing training is crucial for providing teachers with the information and skills needed to effectively support students with special needs, ultimately improving the educational experiences and outcomes for these students.

6. Conclusions and recommendations

6.1. Conclusions

The following conclusions are drawn based on the findings of the study:

(1) Teachers have limited knowledge and experience in handling students with special educational needs before the implementation of the capacity-building program.

(2) The training program effectively improved the skills and knowledge of all participants, regardless of their initial performance levels.

(3) Ongoing professional development and training are essential for teachers to effectively support students with special needs in the classroom.

(4) Collaboration with other professionals in the field of special education is crucial for meeting the diverse needs of students with special needs.

(5) Family involvement and communication positively impact students' outcomes and success in the classroom.

6.2. Recommendations

Based on these conclusions, the following recommendations are developed from the study:

(1) Schools should invest in ongoing professional development and training for teachers working with students with special needs to maintain and enhance their skills and knowledge.

(2) Schools should regularly assess teachers' experience and comfort levels in teaching students with special needs to provide additional support and training as needed.

(3) Collaboration among special education professionals, general education teachers, and related service providers should be encouraged and supported to meet the unique needs of students with special needs.

(4) Administrators and policymakers should prioritize funding and allocate resources for special education programs to ensure that students with special needs receive the highest quality education possible.

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The authors declare no conflicts of interest.

Author contributions

MCLL identified the research problem, facilitated the conduct of the capacity-building program, and wrote the introduction, methods, results, and discussion part of the manuscript. ABL wrote the research design, instrument, and conclusion part of the manuscript. Both researchers wrote the recommendations.

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