

International Journal of

INTELLIGENT SYSTEMS AND APPLICATIONS IN ENGINEERING

ISSN:2147-6799 www.ijisae.org Original Research Paper

A Study of Pre-Service Teachers' Preparedness for Inclusive Education

Maria Reginah M. Entrampas^{1*} Regina E. Sitoy^{2*}, Krystill E. Espina 3*, Kara Izabelle B. Labayan ^{4*}, Marjorie S. Telmo ^{5*}, Liezel L. Sollano ^{6*}

Submitted:12/03/2024 **Revised**: 27/04/2024 **Accepted**: 04/05/2024

Abstract: This study examined the level of preparedness to implement inclusive practices in the classroom by the pre-service teachers at Cebu Technological University Main Campus for the academic year 2023-2024 as basis for an action plan. A descriptive-correlation method of research was employed with an adopted questionnaire to gather data of the 42 respondents. Gathered data were analyzed using frequency count, percentage, weighted mean, and Pearson r. Findings revealed that most of the pre-service teachers were females, with an average age of 22, were assigned to middle grade levels, and are from the Elementary and Secondary Education departments. Additionally, results on the sentiments, attitudes and concerns of pre-service teachers were predominantly characterized as "Disagree," which denotes that most of the respondents were not yet ready to embrace the inclusive practices. Moreover, the teaching efficacy level of the pre-service teachers in learning in relation to their preparedness to implement inclusive practices in the classroom is predominantly characterized as "Agree," which denotes that respondents were efficient in the implementation of inclusivity. Moreover, the test of significance revealed that sentiments, attitudes and concerns have no impact on the efficacy of pre-service teachers to implement inclusive practices. Hence, it is strongly recommended that an action plan shall be implemented to enhance preparedness of pre-service teachers for inclusive education.

Keywords: Special education, Sentiments, Attitude, Concerns, Efficacy, Inclusive education, descriptive-correlational design, Cebu, Philippines

1. Introduction

Inclusive education, which advocates for the right of every child to receive high-quality education regardless of their background, ability, or disability, is rapidly gaining global traction. The goal is to create classrooms where all students, no matter their differences, can learn together. Yet, despite growing support for this approach, a significant barrier remains: the readiness of teachers, particularly pre-service teachers, to effectively implement inclusive education.

Numerous studies have exposed a critical gap in teacher preparedness. Research in Spain (Arnaiz Sanchez et al., 2019) and Ghana (Wisdom et al., 2016) reveals that many teachers feel unprepared to meet the diverse needs of students in inclusive classrooms due to insufficient training. This challenge is echoed in the Pacific region, where Forlin and Sin (2017) found that both in-service and pre-service teachers often struggle to manage inclusive classrooms effectively. Even in regions like the UK and Europe, where inclusive education is a key component of teacher education, many new teachers find it difficult to grasp the full scope of inclusion (Cerna, 2021).

In the Philippines, the Department of Education (DepEd) has taken a strong stance, mandating inclusive education policies that ensure all children—regardless of their differences—are included in the educational system. However, the real-world application of these policies is far from seamless. The implementation is frequently hindered by a lack of resources, inconsistent training, and varying regional attitudes towards inclusion. At the heart of these

challenges is the lack of preparedness among teachers, especially those in training.

This study seeks to address this critical issue by evaluating the preparedness of pre-service teachers to implement inclusive education strategies in their future classrooms. By assessing their readiness and exploring potential links between their academic performance and preparedness for inclusive teaching, this research aims to uncover key insights that can inform the improvement of teacher training programs. Ultimately, the goal is to ensure that future educators are fully equipped to create classrooms that embrace diversity, foster inclusivity, and provide equal educational opportunities for all students.

2. Theoretical and Conceptual Framework

This study is based on two key theories—Constructivist Learning Theory and Universal Design for Learning (UDL)—and relevant Philippine legal frameworks. These components provide a comprehensive foundation for evaluating the preparedness of pre-service teachers in Cebu for inclusive education.

Constructivist Learning Theory

Constructivist Learning Theory, introduced by Piaget (1954), suggests that learners actively construct knowledge through their experiences and interactions with the world. Learning is an active, reflective process where individuals build unique understandings based on their experiences (Fosnot, 2013; Richardson, 2003). For pre-service teachers, this theory emphasizes the importance of hands-on,

reflective learning experiences. Engaging in real-world teaching scenarios allows future educators to adapt and refine their teaching practices, particularly in inclusive classrooms. Through active participation and reflection, pre-service teachers in Cebu can develop the skills needed to support diverse learners effectively.

Universal Design for Learning (UDL)

UDL is an educational framework that promotes flexible teaching approaches to accommodate the diverse needs of all students (Meyer, Rose, & Gordon, 2014). UDL emphasizes three key principles: offering multiple means of representation, expression, and engagement. This ensures that all students can access and engage with the curriculum, regardless of their learning styles or abilities. The use of technology is central to UDL, as it provides tools to differentiate learning and support varied learner needs. UDL promotes flexibility in teaching methods and content delivery, encouraging pre-service teachers to adopt strategies that cater to diverse student needs and learning preferences in inclusive settings.

2.1 Legal Frameworks

The legal frameworks in the Philippines play a critical role in shaping pre-service teacher training for inclusive education. Key laws include:

Philippine Professional Standards for Teachers (PPST): The PPST provides guidelines for teachers' competencies, particularly Domain 3, which focuses on the "Diversity of Learners." This domain stresses the importance of preparing teachers to manage inclusive classrooms, differentiate instruction, and meet the needs of students with varying abilities (Department of Education, 2017). This directly informs the study by setting standards for pre-service teachers' preparedness for inclusive education.

Enhanced Basic Education Act of 2013 (Republic Act 10533): This law extends basic education to 12 years and mandates that teachers adapt to the diverse needs of students, including those with special needs. The K-12 curriculum framework ensures that pre-service teachers are trained to work with students across different developmental stages and learning needs, reinforcing the importance of inclusive education.

Inclusive Education Act (Republic Act 11650): This legislation aims to ensure equitable access to quality education for all learners, especially those with special educational needs. It mandates inclusive education programs, resource provisions, and educator training to support diverse learners. This law directly impacts how preservice teachers are prepared to implement inclusive education practices.

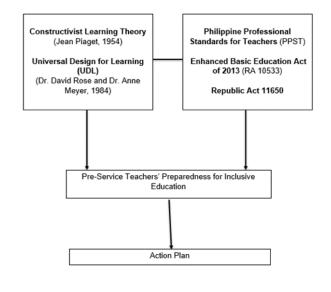


Figure 1: Theoretical Framework

Moreover the combination of Constructivist Learning Theory, UDL, and Philippine legal frameworks creates a comprehensive basis for assessing the preparedness of preservice teachers in Cebu for inclusive education. These theories and laws guide the development of flexible, inclusive teaching practices and emphasize the need for teacher training programs that address the diverse needs of learners. By examining how these elements align in preservice teacher training, this study aims to ensure that future educators are well-equipped to create inclusive, supportive learning environments for all students.

3. Review of Related Literature

Recent research on inclusive education has highlighted critical issues regarding teachers' preparedness to implement inclusive teaching practices. While attitudes toward inclusive education are generally positive, significant gaps remain in teachers' ability to effectively support students with special educational needs (SEN). These gaps point to the urgent need for improved teacher training programs aimed at fostering skills and knowledge necessary for inclusive education.

Teachers' Attitudes and Training Gaps

A meta-synthesis by Roxainned et al. (2021) emphasizes that while teachers often express supportive views toward inclusive education, there remains a substantial gap in their ability to implement inclusive strategies effectively, particularly for students with SEN. This discrepancy between favorable attitudes and inadequate training highlights the need for targeted professional development to equip educators with the necessary skills to manage inclusive classrooms. The findings suggest that pre-service teacher education programs should integrate more robust training in inclusive practices to better prepare future

educators.

Teacher Effectiveness in Key Areas

Sito (2020) conducted a study to assess teacher effectiveness in three critical areas for successful inclusive education: learning promotion, classroom management, and student relations. The results indicated that teachers performed at a moderate level in these areas, showing that while they were able to support students, there was still room for improvement. Sito's study advocates for further development in these domains through professional development programs, which could help teachers enhance their ability to engage diverse learners, maintain an inclusive classroom environment, and foster strong relationships with students.

Preparedness and Training Needs in the Filipino Context

Capulong (2018) explored the preparedness of Filipino teachers for inclusive education, focusing on their familiarity with inclusion principles and the extent of training they had received. The study found that while teachers possessed a basic understanding of inclusive education, there was a notable lack of practical skills in managing inclusive classrooms. This suggests that teacher education programs in the Philippines need to integrate more comprehensive training in inclusive practices, including classroom management and differentiation strategies.

Additionally, research by Rabi, Rohaizad, and Zulkefli (2018) highlighted that pre-service teachers had a solid understanding of special education policies and the characteristics of students with special needs. However, their preparation lacked depth in practical inclusive teaching strategies, reinforcing the need for more specialized training during university education to ensure teachers are adequately prepared for inclusive environments.

Curriculum and Practical Exposure

Makoelle and Burmistrova (2021) found that many pedagogical universities lack well-developed, specialized programs for preparing teachers for inclusive education. The study suggested that universities should implement dedicated inclusive education courses and offer more exposure to inclusive schools. These changes would help future educators build the necessary skills to manage diverse classrooms and address the needs of all students.

Alhammadi (2024) also examined the effectiveness of inclusive education courses and practical training. Although the study participants reported positive attitudes toward inclusion, they expressed dissatisfaction with the lack of practical, classroom-based training. The study underscores the importance of integrating field experiences into teacher preparation programs to provide pre-service teachers with

hands-on opportunities to apply inclusive education practices.

Willingness and Perceptions of Pre-Service Teachers

The study by Gilor and Katz (2018) focused on pre-service teachers' perceptions of inclusive teaching, specifically their willingness to teach students with disabilities. Their findings revealed a gap between pre-service teachers' theoretical knowledge and their practical readiness to implement inclusive strategies. Some participants felt unprepared to accommodate students with specific needs, such as those requiring communication devices. The study suggests that while pre-service teachers are generally willing to support students with disabilities, further training and experience are needed to prepare them for the challenges of inclusive classrooms.

Vandervieren and Struyf (2019) investigated a collaborative inclusion pathway designed to better prepare secondary preservice teachers for inclusive education in Belgium. Their study revealed that the program positively impacted participants' knowledge, attitudes, and confidence regarding inclusive teaching. Classroom observations, theoretical learning, and peer discussions provided participants with valuable insights, helping them feel more equipped to incorporate inclusive practices into their teaching.

Field-Based Experience and Teacher Preparation

Massouti (2021) conducted a case study in Ontario to assess the effectiveness of a teacher education program in preparing pre-service teachers for inclusive education. The study found that pre-service teachers felt that inclusion required not only knowledge and tools but also a positive attitude and respect for all students. The study emphasized the importance of field-based experiences in K–12 classrooms that reflect the diversity of student populations. Supervision by experienced teachers who prioritize inclusion was also identified as essential for pre-service teachers' development.

AlMahdi and Bukamal (2019) investigated pre-service teachers' experiences during their school practicum and found that while most participants expressed compassion and positive attitudes toward students with disabilities, many felt unprepared to work with students with specific needs, such as those with challenging behaviors or communication requirements. The study called for more opportunities for pre-service teachers to engage with students with disabilities during their practicum to build their confidence and practical skills.

Global Perspectives on Teacher Preparation for Inclusion

Across multiple studies, including those by Gilor and Katz (2018), Makoelle and Burmistrova (2021), and Massouti (2021), the general consensus is that while positive attitudes

toward inclusive education are common, pre-service teachers often feel inadequately prepared to implement inclusive teaching methods. These studies suggest that comprehensive teacher preparation programs should focus on both theoretical knowledge and practical experience, with an emphasis on classroom exposure, specialized coursework, and field-based training to ensure that future educators are fully equipped to meet the needs of diverse learners.

In general the research consistently underscores the gap between pre-service teachers' attitudes toward inclusive education and their readiness to apply inclusive teaching practices. While many pre-service teachers are willing and supportive of inclusive education, the lack of comprehensive training, practical exposure, and field-based experiences is a significant barrier. The studies reviewed highlight the importance of strengthening teacher preparation programs by incorporating hands-on training, specialized courses, and real-world classroom experiences to better prepare future educators for the demands of inclusive classrooms.

4.Statement of the Problem

This research examined the level of preparedness to implement inclusive practices in the classroom by the preservice teachers of the College of Education, Cebu Technological University – Main Campus, Cebu City for the School Year 2023-2024 as the basis for an action plan.

Specifically, it answered the following questions:

- 1. What is the profile of the respondents in terms of:
 - 1.1 age and gender;
 - 1.2 course major; and
 - 1.3 grade level assigned to?
- 2. What are the perceived levels of sentiments, attitudes, or concerns of the respondents on inclusive education?
- 3. What is the perceived level of teaching efficacy of the respondents?
- 4.Is there a significant relationship between perceived levels of sentiments, attitudes, or concerns and the level of teaching efficacy of the respondents?
- 5.Based on the findings of the study, what action plan can be proposed?

4.1 Statement of Hypothesis

 H_o : There is no significant relationship between the perceived levels of sentiments, attitudes, or concerns and the level of teaching efficacy of the respondents

5. Research Methodology

This study used a descriptive correlational research design

to explore the relationship between pre-service teachers' perceptions of inclusive education and their self-efficacy in teaching inclusive classrooms (Essel, Tachie-Menson, Nunoo, & Johnson, 2022). The design aimed to identify whether and how these two variables are connected. To select respondents, the study employed a combination of purposive and convenience sampling. Purposive sampling was used to choose fourth-year education students currently engaged in practicum or internship programs in teaching. Convenience sampling was also applied to include those who were willing and available to participate. Respondents were selected based on their exposure to inclusive teaching environments, ensuring that their experiences were relevant to the study's focus. The sample was intended to reflect the diversity of student experiences in inclusive classrooms, ensuring a broad representation of perspectives. This approach allows for a deeper understanding of how different factors, such as prior training and classroom exposure, influence pre-service teachers' readiness for inclusion.

The study followed an Input-Process-Output (IPO) model to guide the data collection and analysis process. In the input phase, demographic information was gathered from the respondents, including their name, age, gender, course major, grade level assigned during practicum, and the name of their institution. The process involved obtaining permission and consent, distributing the survey instruments, collecting responses, and then organizing and analyzing the data. In the final stage, the output of the study will include the development of an Action Plan that is based on the research findings. This plan may suggest improvements in inclusive teacher training programs to address gaps identified in pre-service teachers' preparedness for inclusive education. The research design ensures a comprehensive and systematic approach to data collection, providing actionable insights that can inform future teacher training initiatives. Additionally, the study aims to contribute to the broader discussion on inclusive education, highlighting key areas where teacher education programs may need to evolve. The structured approach ensures systematic data gathering, analysis, and the generation of actionable insights.

The study utilized a survey questionnaire to gather data on pre-service teachers' perceptions of inclusive education and their self-efficacy in inclusive classrooms. The questionnaire consisted of three parts: Part I collected demographic information, including degree major, age, training, and interactions with individuals with disabilities; Part II assessed sentiments, attitudes, and concerns about inclusive education using the Revised SACIE-R scale, which includes 15 items answered on a four-point Likert scale; and Part III measured teacher efficacy using the Teacher Efficacy for Inclusive Practices (TEIP) scale, which contains 18 items focused on efficacy in instruction, collaboration, and behavior management. The data were

gathered in three stages: initially, the researcher sought permission from the campus director of Cebu Technological University Main Campus; then, an orientation was provided to respondents, followed by the administration of the survey; and finally, the collected data were analyzed and securely stored. Statistical treatments included frequency counts to categorize demographic data, percentages to describe proportions, weighted means to assess self-efficacy and attitudes, and Pearson's Product-Moment Correlation Coefficient (PPMCC) to determine the relationship between self-efficacy and attitudes toward inclusive education. An action plan based on the findings was proposed to enhance inclusive teacher training programs

5.1 Scoring Procedure:

Data collected from the survey questionnaires were analyzed based on specific numerical and descriptive ratings. For Sentiments, Attitudes, and Concerns about Inclusive Education (SACIE), the following scale was used: a mean score of 3.51-4.00 indicates "Strongly Agree", 2.51-3.50 indicates "Agree", 1.51-2.50 means "Disagree", and 1.00-1.50 means "Strongly Disagree." This scale measures the respondents' sentiments, attitudes, and concerns regarding inclusive education. For the Teacher Efficacy for Inclusive Practice (TEIP) scale, ratings ranged from 1 to 6: 5.51-6.00 represents "Strongly Agree", 4.51-5.50 means "Agree", 3.51-4.50 indicates "Agree Somewhat", 2.51-3.50 reflects "Somewhat Disagree", 1.51-2.50 is "Disagree", and 1.00-1.50 means "Strongly Disagree." The TEIP scale measures respondents' self-efficacy regarding their ability to teach in inclusive classrooms and their confidence in inclusive teaching practices.

5.2 Ethical Considerations and Data Privacy:

The survey was administered, informed consent was obtained from all participants, and prior approvals were secured from the relevant institutions. To ensure confidentiality and anonymity, the data were collected anonymously and encrypted. Voluntary participation was emphasized, ensuring no coercion was involved. Furthermore, in accordance with the Data Privacy Act of 2012, all data were securely stored in password-protected files, and no personal information was shared with third parties. These measures helped maintain the privacy of all participants throughout the research process.

6.Research Environment

This study was conducted at Cebu Technological University (CTU) Main Campus, located in M.J. Cuenco Ave. Cor. R. Palma St., Cebu City. Established in 1911, CTU is one of the oldest vocational schools in the Philippines, initially focused on enhancing students' technical skills. In 2009, the institution was elevated to university status through Republic Act No. 9744, becoming Cebu Technological University. Recognized for its excellence, CTU is ranked as

one of the top universities in the Philippines and continues to gain international recognition. The College of Education at CTU Main Campus is particularly renowned for producing top performers in the Licensure Exam for Professional Teachers.



Fig 2: Environment

The respondents for this study were pre-service teachers enrolled in the Bachelor of Special Needs Education program at CTU Main Campus. The participants were selected based on their current enrollment in the program and their involvement in inclusive education practices during their training. As shown in Table 1, the distribution of respondents includes two major groups: Generalist preservice teachers (58%) and those specializing in Teaching Deaf and Hard-of-Hearing Learners (42%). These respondents were considered representative of the diversity in teacher training for inclusive education at the university.

Table 1: Distribution of the Respondents

Major				9,	6
Generalist			29	58	.00
Teaching Deaf and Hard-of-Hearing Learners					
				1	U
Total			50	10	0.00
Total Major	n	%	50	10	0.00
	n 29	% 58.00	50	10	0.00
Major			50	10	0.00

7. Data Presentation, Analyis and Interretation

This section focuses on presenting, analyzing, and interpreting the data to help readers understand key findings, draw conclusions, and validate hypotheses. It highlights how the study's objectives are addressed through an examination of the respondents' profiles, sentiments, attitudes, and teaching efficacy.

Age and Gender

The analysis of age and gender offers insights into the demographic makeup of pre-service teachers and helps inform strategies to address their diverse needs. The findings, presented in Table 2, show a balanced age distribution and gender representation, reflecting the diversity within the sample and providing a basis for customizing support in inclusive education.

Table 2: Age and Gender of the Respondents

Age (in	Fem	ale	Mal	le	Other Gender				Tot	tal	
year	Fre	%	Fre	%	Fre	%	Fre	%			
s)	q.		q.		q.		q.				
24 –	3		_	_	-	_	3				
25		6.						6.			
		00						00			
22 –	36	72	3	6	3	6.00	42				
23		.0						84			
		0		0				.0			
				0				0			
20 –	5	10	_	_	_	-	5	10			
21		.0						.0			
		0						0			
Sub-	44	88	3	6	3	6.00	50	10			
total		.0						0.			
		0		0				00			
				0							

Table 2 highlights a significant gender imbalance among the pre-service teachers in the study, with 88% females, 6% males, and 6% identifying as other genders. The majority of respondents (84%) are in the 22-23 age range, suggesting a relatively young cohort. This demographic trend is important for understanding the challenges pre-service teachers face in inclusive educational settings. The gender disparity mirrors broader trends in the education sector, where women are often overrepresented, and may influence the perspectives and preparedness of future educators for inclusive practices. Research on the relationship between teacher age, gender, and attitudes toward inclusion presents mixed findings. Some studies suggest a positive correlation between experience (often linked to age) and favorable attitudes toward inclusion (Navarro-Mateu et al., 2020), while others find no significant gender effect (Mouchritsa et al., 2022). However, research by Adigun (2021) indicates that female pre-service teachers tend to have a more comprehensive understanding of inclusive education than their male counterparts, suggesting that gender may play a role in shaping attitudes and preparedness for inclusive teaching. These findings underscore the importance of considering both age and gender when designing interventions and support strategies for pre-service teachers in inclusive education programs.

Table 3: Course Major of the Respondents

Course	Fen	nale	ale Male To				otal	
Major	F	%	F	%	F	%	F	%
Generalist	26	52	1	2	2	4	29	58
TDHHL	18	36	2	4	1	2	21	42
Sub-total	44	88	3	6	3	6	50	100

Legend: TDHHL refers to Teaching Deaf and Hardof-Hearing Learners

Table 3 reveals a higher proportion of pre-service teachers in

Generalist program (58%) compared to the TDHHL program (42%).

This distribution suggests that Generalist pre-service teachers may face a broader range of challenges in inclusive education, while TDHHL teachers may encounter more specific challenges related to teaching deaf and hard-of-hearing learners. This distinction highlights the need for tailored support and training programs. Research shows that preservice teacher preparation programs positively influence attitudes towards inclusive education, with theoretical grounding and classroom experiences enhancing confidence and teaching methods (Vandervieren & Struyf, 2021; Aldosari, 2022). Additionally, studies indicate that the structure of training programs can shape lesson planning and self-assessment practices, further influencing pre-service teachers' preparedness for inclusive environments (Lancaster & Bain, 2020).

Table 4: Grade Level Assignment of the Respondents

Assigned Grade Level	Female (%)	Male (%)	Total (%)
Kindergarten	24.00	_	24.00
Elementary	38.00	6.00	48.00
Multi-Grade	6.00	_	6.00
Non-Graded	14.00	2.00	16.00
Transition	6.00	_	6.00

Assigned Grade Level	Female (%)	Male (%)	Total (%)
Total	88.00	6.00	100.00

Table 4 shows the distribution of pre-service teachers across various grade levels, with the majority assigned to elementary grades (48%), followed by kindergarten (24%) and non-graded levels (16%). This diversity highlights the different challenges pre-service teachers face in inclusive education, as each grade level presents unique demands. The predominance of respondents in elementary education suggests the need for targeted support to address the specific challenges of inclusive practices at this stage.

Research confirms that grade level and teaching experience influence attitudes towards inclusion, with elementary educators typically more confident in classroom management and student engagement (Yada et al., 2022). However, pre-service teachers with limited classroom experience often show gaps in their ability to implement inclusive practices (Pov et al., 2024). These findings underscore the need for improved teacher training to better equip pre-service teachers at all educational stages to address diverse student needs in inclusive settings (Triviño-Amigo et al., 2023).

Table 5: Sentiments, Attitudes, or Concerns of Pre-service Teachers Regarding Their Preparedness for Inclusive Practices

Indicator	Mean (x̄)	VD
Concern about student acceptance	3.2	Agree
Concern about having a disability	2.1	Disagree
Students with verbal difficulties in regular classes	2.3	Disagree
Difficulty giving attention in inclusive classrooms	2.8	Agree
Avoidance of people with disabilities	1.9	Disagree
Inattentive students in regular classes	2.2	Disagree
Increased workload with students with disabilities	1.7	Strongly Disagree
Use of communicative technologies in regular classes	2.3	Disagree

Indicator	Mean (x̄)	VD
Personal disability concern	1.8	Disagree
Stress with students with disabilities	1.5	Strongly Disagree
Having students with disabilities in class	1.4	Strongly Disagree
Students failing exams in regular classes	2.3	Disagree
Shock when meeting people with severe disabilities	1.8	Disagree
Lack of knowledge to teach students with disabilities	2.2	Disagree
Students needing individualized programs in regular classes	2.2	Disagree
Average Weighted Mean	2.1	Disagree

Legend:

3.25 - 4.00 = Strongly Agree (SA)

2.50 - 3.24 = Agree(A)

1.75 - 2.49 = Disagree (D)

1.00 - 1.74 =Strongly Disagree (SD)

Table 5 shows that pre-service teachers largely disagree with statements suggesting ease in implementing inclusive practices. The overall mean of 2.1 indicates general concerns about their preparedness. Notable concerns include a lack of skills ($\bar{x}=2.2$), difficulty managing students with disabilities ($\bar{x}=2.2$), and fear of increased workload and stress ($\bar{x}=1.7, 1.5$). However, teachers expressed more confidence in fostering peer acceptance of students with disabilities ($\bar{x}=3.2$) and providing attention to all students ($\bar{x}=2.8$), indicating that while they recognize the benefits of inclusive education, they feel unprepared for its practical implementation. These findings suggest a need for enhanced training and support to boost pre-service teachers' confidence and effectiveness in inclusive classrooms.

Table 6: Level of Teaching Efficacy of Pre-service Teachers in Relation to Their Preparedness for Inclusive Practices

Survey Indicator	Mean (x̄)	VD
Clear expectations for student behavior	4.7	Agree
Calming disruptive students	4.7	Agree

Survey Indicator	Mean (x̄)	VD
Making parents feel comfortable	5.1	Agree
Assisting families to support students	5.0	Agree
Gauging student comprehension	4.4	Agree
Providing challenges for capable students	4.8	Agree
Preventing disruptive behavior	4.3	Agree Somewhat
Controlling disruptive behavior	4.2	Agree Somewhat
Involving parents in school activities	4.8	Agree
Designing tasks for students with disabilities	5.0	Agree
Getting students to follow classroom rules	4.8	Agree
Collaborating with professionals for students with disabilities	4.5	Agree
Working jointly with professionals and staff	4.9	Agree
Getting students to work in groups	4.6	Agree
Using a variety of assessment strategies	4.8	Agree
Informing others about inclusion laws	4.6	Agree
Dealing with physically aggressive students	4.3	Agree Somewhat
Providing alternate explanations when needed	4.9	Agree
Average Weighted Mean	4.7	Agree

Legend:

5.17 - 6.00 =Strongly Agree (SA)

4.33 - 5.16 = Agree(A)

3.50 - 4.32 = Agree Somewhat (AS)

2.67 - 3.49 = Disagree Somewhat (DS)

1.83 - 2.66 = Disagree (D)

1.00 - 1.82 =Strongly Disagree (SD)

Table 6 reveals that pre-service teachers demonstrate high teaching efficacy in relation to their preparedness for inclusive practices, with an average mean of 4.7, indicating

strong confidence across various areas such as behavior management, parental involvement, and adapting tasks for students with disabilities. Most indicators fall within the "Agree" category, with teachers feeling capable of addressing the diverse needs in inclusive classrooms. However, there are a few areas of partial agreement, particularly in managing disruptive behavior and dealing with physically aggressive students, highlighting where additional training and support may be beneficial. These results suggest that while pre-service teachers are generally confident in their ability to implement inclusive practices, there are specific challenges that require further attention. Studies support the importance of teacher efficacy in inclusive education, showing that teachers with higher selfefficacy are more likely to successfully implement inclusive strategies and manage diverse classrooms (Sharma et al., 2021; Yada et al., 2022). Addressing these areas of concern in teacher training programs will enhance pre-service teachers' readiness to face the challenges of inclusive education and improve outcomes for all students.

Table 7: Test of Significance on the Relationship Between Perceived Levels of Sentiments, Attitudes, or Concerns and the Level of Teaching Efficacy of Respondents

Variables	Mea n (x̄)	d f	Rho	p- value	Resul ts	Decisio n
Perceived Levels of Sentiment, Attitudes, or Concerns on Preparedness in Inclusive Education	2.1	9	- 0.236	0.099	*	Do not reject Ho
Level of Teaching Efficacy in Relation to Preparedness in Inclusive Education	4.7					

Note: *Significant at p<0.05 (2-tailed). Table 7 presents the test of significance between pre-service teachers' perceived sentiments, attitudes, or concerns about inclusive education and their teaching efficacy. The test statistic (Rho = -0.236) suggests a weak negative correlation, but the p-value (0.0995) indicates that this correlation is not statistically significant at the 0.05 level. As such, the null hypothesis cannot be rejected, meaning that there is no statistically significant relationship between pre-service teachers' concerns about their preparedness and their teaching efficacy in inclusive education.

These results imply that while pre-service teachers may express concerns about their readiness for inclusive education, these concerns do not significantly impact their confidence or efficacy in implementing inclusive practices. This suggests that other factors—such as training, prior experience, and support—are likely more influential in shaping teaching efficacy than perceived attitudes and concerns alone. Further research into the various factors influencing teaching efficacy in inclusive classrooms is needed to provide a more comprehensive understanding of how pre-service teachers develop the confidence and skills necessary for inclusive education. Previous studies have shown mixed results regarding the correlation between teacher attitudes and efficacy, with some suggesting a more significant link between efficacy and specific inclusionrelated concerns (Savolainen et al., 2020). This complexity highlights the need for a multifaceted approach in teacher education programs to address both psychological and practical aspects of teaching in inclusive environment.

Findings

The study examined the preparedness of 50 pre-service teachers from Cebu Technological University's Bachelor of Special Needs Education program, focusing on their sentiments, attitudes, concerns, and teaching efficacy regarding inclusive education. Participants, specializing in either Generalist or Teaching Deaf and Hard of Hearing Learners tracks, were assigned to various grade levels in cooperating schools, including Kindergarten, Elementary, Multi-grade, Non-Graded, and Transition Classes. Findings revealed that while the pre-service teachers expressed concerns about their preparedness for inclusive practices (with a mean score of 2.1, indicating disagreement), they demonstrated a high level of teaching efficacy (mean score of 4.7, indicating agreement). Despite these concerns, the study found a weak negative correlation (-0.236) between sentiments and teaching efficacy, but the relationship was not statistically significant (p-value of 0.0995), indicating that the teachers' concerns did not significantly affect their self-reported teaching confidence. These findings suggest that while pre-service teachers recognize gaps in their preparedness for inclusive education, their overall sense of teaching efficacy remains strong, signaling the need for targeted training to bridge the gap between perceived preparedness and confidence in implementing inclusive practices.

Recommendations

Based on the findings of the study, it is clear that while preservice teachers generally feel confident in their teaching efficacy, there are areas where their preparedness for inclusive education can be enhanced. Although no statistically significant relationship was found between their attitudes, concerns, and teaching efficacy, the results indicate room for improvement in their readiness to implement inclusive practices effectively. Therefore, the following recommendations aim to address these gaps, strengthen teacher training programs, and better equip preservice teachers to meet the diverse needs of students in inclusive classrooms.

1. Enhance Inclusive Education Training

Incorporate more focused modules on inclusive education, with workshops, seminars, and classroom observations involving students with diverse needs to better prepare preservice teachers.

2.Develop Mentorship Programs

Pair pre-service teachers with experienced mentors in inclusive classrooms to provide real-world insights and practical experience in implementing inclusive practices.

3. Establish Peer Learning Groups

create peer learning groups for sharing experiences and strategies on inclusive education, fostering collaborative learning and a supportive community among pre-service teachers.

4.Implement Regular Evaluations and Feedback

Introduce ongoing evaluations and feedback systems to assess and improve pre-service teachers' preparedness, allowing adjustments to the training program as needed.

5. Focus on Emotional and Psychological Preparedness

Integrate training on stress management, counselling strategies, and empathy-building to help pre-service teachers handle the challenges of inclusive education with confidence.

Action Plan

The study assessed the preparedness of pre-service teachers for handling inclusive classrooms, focusing on their sentiments, and perceived efficacy implementing inclusive practices. The findings revealed a notable gap between pre-service teachers' self-assurance in their teaching efficacy and their perceptions of their preparedness implement inclusive strategies. Specifically, the pre-service teachers "disagreed" with most of the statements indicating their readiness to apply inclusive practices, yet they "agreed" with most statements on their teaching efficacy, signaling a disparity between their confidence in managing classrooms and their preparedness to cater to diverse learning needs. This discrepancy suggests the need for targeted interventions to bridge this gap, enhance teacher preparedness, and boost confidence in managing inclusive classrooms.

In response to these findings, this study proposes a comprehensive action plan aimed at improving pre-service teachers' preparedness for inclusive education. The plan focuses on three main objectives: (1) addressing concerns regarding attention management in inclusive classrooms, (2) fostering acceptance of students with special needs, and (3)

equipping teachers with practical classroom management skills. To achieve these objectives, the plan includes seminars on building positive classroom culture, workshops on differentiated instruction, and training on assistive technology and positive behavior support. Additionally, microteaching opportunities and workshops on proactive classroom management strategies will be provided to give teachers hands-on practice in managing diverse and inclusive learning environments. By implementing these strategies, the action plan aims to enhance pre-service teachers' skills and confidence, ultimately preparing them to create supportive, inclusive classrooms that address the needs of all students.

Acknowledgements

The authors wish to express their sincere gratitude to our esteemed Professors for their exceptional guidance and unwavering support throughout this research. We would also like to extend our appreciation to the College of Education at Cebu Technological University, along with the faculty and staff of the Special Education Department, for their valuable contributions to the success of this study. Our thanks also go to the Special Education teachers and preservice teachers who participated in the research and provided insightful feedback.

Furthermore, we are deeply appreciative of the encouragement and support from our families, friends, and colleagues. This research would not have been possible without the collective efforts and collaboration of all those involved.

Author contributions

In the study titled A Study of Pre-Service Teachers' Preparedness for Inclusive Education, Maria Reginah M. Entrampas led the conceptualization, methodology design, and overall management of the research process, ensuring the study adhered to its objectives. Regina E. Sitoy contributed significantly to the literature review, survey design, and data collection, providing a thorough understanding of the preparedness of pre-service teachers for inclusive education.

Krystill E. Espina played a pivotal role in data curation, analysis, and interpretation, particularly in assessing the preparedness of the participants. Kara Izabelle B. Labayan contributed to the statistical analysis and provided insights into the discussion, ensuring the results were accurately presented. Marjorie S. Telmo was instrumental in the development of the research framework and participated in drafting the manuscript, including revising the sections related to the study's implications.

Liezel L. Sollano contributed to the survey design, data validation, and the overall interpretation of results, ensuring the robustness of the conclusions drawn from the study. Together, the authors collaboratively drafted the manuscript, conducted interviews, and edited the final document, ensuring a comprehensive analysis of the preparedness of pre-service teachers for inclusive education.

Conflicts of interest

The authors declare no conflicts of interest.

References

- [1] Adigun, O. T. (2021). Inclusive education among preservice teachers from Nigeria and South Africa: A comparative cross-sectional study. Cogent Education, 8(1), 1930491.
- [2] Aldosari, M.S. (2022). Factors affecting middle school teachers' attitudes toward the inclusion of students with disabilities. Frontiers in Psychology, 13, 853696.
- [3] Alhammadi, M. M. (2024). Assessing the efficiency of teacher education program in Emirati university for preparing pre-service teachers for inclusive education. Cogent Education, 11(1), 2369966.
- [4] AlMahdi, O., & Bukamal, H. (2019). Pre-service teachers' attitudes toward inclusive education during their studies in Bahrain Teachers College. Sage Open, 9(3), 2158244019865772.
- [5] Alnahdi, G.H. & Schwab, S. (2021). Special education major or attitudes to predict teachers' self-efficacy for teaching in inclusive education. Frontiers in Psychology, 12, 680909.
- [6] Arnaiz Sanchez, P., de Haro-Rodriquez, R., & Maldonado Martinez, R. (2019). Barriers to student learning and participation in an inclusive school as perceived by future education professionals. Journal of New Approaches in Educational Research (NAER Journal), 8(1), 18-24, University of Alicante. Retrieved from https://learntechlib.org/p/207145/.
- [7] Boyle, C., Anderson, J., & Allen, K. (2020). The Importance of Teacher Attitudes to Inclusive Education. DOI: 10.1163/9789004431171_008.
- [8] Capulong, J. (2018). Assessing the preparedness of Filipino teachers for inclusive education. Journal of Education and Learning, 12(3), 456-467.
- [9] Cerna, L., et al. (2021). Promoting inclusive education for diverse societies: A conceptual framework. OECD Education Working Papers, No. 260, OECD Publishing, Paris. https://doi.org/10.1787/94ab68c6en.
- [10] Department of Education. (2017). Philippine professional standards for teachers. [Online]. Retrieved from https://bit.ly/DepEd_PPST.
- [11] Forlin, C., & Sin, K.F. (2017). In-service teacher

- training for inclusion. In G. W. Noblit (Ed.), Oxford research encyclopedia of education. https://10.1093/acrefore/9780190264093.013.161.
- [12] Forlin, C., Earle, C., Loreman, T., & Sharma, U. (2011). The Sentiments, Attitudes, and Concerns about Inclusive Education Revised (SACIE-R) Scale for Measuring Pre-Service Teachers' Perceptions about Inclusion. Exceptionality Education International, 21(3), 50-65.
- [13] Fosnot, C. T. (2013). Constructivism: Theory, perspectives, and practice. Teachers College Press.
- [14] Gilor, O., & Katz, M. (2018). From normalisation to inclusion: Effects on pre-service teachers' willingness to teach in inclusive classes. International Journal of Inclusive Education, 25(4), 466–481. https://doi.org/10.1080/13603116.2018.1559365.
- [15] Lancaster, J., & Bain, A. (2020). Teacher preparation and the inclusive practice of pre-service teachers: A comparative follow-up study. International Journal of Inclusive Education, 24(12), 1311-1325.
- [16] Love, H.R. & Horn, E. (2021). Definition, context, quality: Current issues in research examining high-quality inclusive education. Topics in Early Childhood Special Education, 40(4), 204-216. https://doi.org/10.1177/0271121419846342.
- [17] MacDonald, C. (2015). Teacher efficacy: Moving towards inclusive practices. MUN Research Repository. https://research.library.mun.ca/11654/1/thesis.pdf.
- [18] Makoelle, T. M., & Burmistrova, V. (2021). Teacher education and inclusive education in Kazakhstan. International Journal of Inclusive Education, 1-17.
- [19] Massouti, A. (2021). Pre-Service Teachers' Perspectives on Their Preparation for Inclusive Teaching: Implications for Organizational Change in Teacher Education. Canadian Journal for the Scholarship of Teaching and Learning, 12(1), n1.
- [20] Maulida, R., Atika, I. N., & Kawai, N. (2020). The preservice teachers' attitudes towards inclusive education: An empirical study in Yogyakarta City, Indonesia. Discourse and Communication for Sustainable Education, 11(1), 65-73.
- [21] Meyer, A., Rose, D. H., & Gordon, D. (2014). Universal design for learning: Theory and practice. CAST Professional Publishing.
- [22] Mouchritsa, M., Romero, A., Garay, U., & Kazanopoulos, S. (2022). Teachers' attitudes towards inclusive education at Greek secondary education schools. Educational Sciences, 12(404), 1–18.

- [23] Navarro-Mateu, D., Franco-Ochoa, J., Valero-Moreno, S., & Prado-Gascó, V. (2020). Attitudes, sentiments, and concerns about inclusive education of teachers and teaching students in Spain. Frontiers in Psychology, 11, 501109.
- [24] Onyishi, C.N. & Sefotho, M.M. (2020). Teachers' perspectives on the use of differentiated instruction in inclusive classrooms: Implication for teacher education. International Journal of Higher Education, 9(6), 136-145. https://doi.org/10.5430/ijhe.v9n6p136.
- [25] Park, M.-H., Dimitrov, D. M., Das, A., & Gichuru, M. (2016). The Teacher Efficacy for Inclusive Practices (TEIP) Scale: Dimensionality and Factor Structure. Journal of Research in Special Educational Needs, 16(1), 2-12. Retrieved from https://bit.ly/Teacher_Efficacy_for_Inclusive_Practices
- [26] Piaget, J. (1954). The construction of reality in the child. Basic Books.
- [27] Pov, S., Kawai, N., & Nov, S. (2024). Preparing preservice teachers to work in Cambodian inclusive classrooms: Knowledge, experience, and attitudes toward inclusion. Teaching and Teacher Education, 137, 104402.
- [28] Rabi, N. M., Ghazali, N. H., Rohaizad, N. A. A., & Zulkefli, M. Y. (2018). Readiness of pre-service teacher to teach students with special needs through inclusive education course. International Journal of Academic Research in Progressive Education and Development, 7(4), 200-210.
- [29] Republic Act No. 10533. (2013). Enhanced Basic Education Act of 2013. [Online]. Retrieved from https://bit.ly/RA_10533_.
- [30] Republic Act No. 11650. (2022). Inclusive Education Act. [Online]. Retrieved from https://www.officialgazette.gov.ph/2022/06/21/republ ic-act-no-11650/.
- [31] Richardson, V. (2003). Constructivist pedagogy. Teachers College Record, 105(9), 1623-1640.
- [32] Roxainned, A., et al. (2021). Bridging the gap between attitudes and training in inclusive education: A metasynthesis. Journal of Inclusive Education, 25(8), 874-890.