

RESEARCH ARTICLE

Students' biases and accommodation in inclusive education: Understanding barriers and promoting equity in the classroom

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ABSTRACT

Inclusive education holds significant value today as it builds an environment where all students, regardless of their abilities, backgrounds, or needs, have equal opportunities to participate in learning. This approach promotes social integration, encouraging students to develop empathy, respect, and understanding for each other's differences, which are essential skills for life beyond the classroom. Inclusive education not only supports individual student development but also strengthens the social fabric by cultivating a more equitable, respectful, and inclusive society. This paper was positioned in exploring the inclusivity biases of pre-service special education (SPED) college students in handling classrooms with pupils having special needs. Their narratives reflected self-efficacy in promoting equity in classrooms. Pre-service SPED college students were purposively sampled from a higher education institution in Province of Biliran, Philippines. The study revealed that pre-service SPED students' belief systems, formed by their perceptions, attitudes, and experiences, strongly influence how they approach inclusive education, particularly biases and low self-efficacy can hinder these. SPED college students feel uncertain and unprepared to meet diverse needs, often due to limited practical experience and a lack of confidence. The study suggested that training, practical field experiences, and reflective activities in teacher preparation programs can help future educators confront and overcome biases, strengthening their self-efficacy and readiness to support all students effectively. By addressing these beliefs early, teacher training programs have the potential to encourage inclusivity and promote equitable learning environments.

Keywords: inclusivity bias; inclusive education; inclusive practices; SPED students

1. Introduction

Inclusive education involves a systematic approach to collaborative learning and early development for children with special educational needs alongside those with neurotypical development^[1]. Students with disabilities are provided with the opportunity to succeed in their social and psychological development. This model facilitates collaborative learning experiences, enabling students to pursue individualized learning objectives designed to their specific abilities and requirements, while also ensuring they receive necessary support. Inclusive education necessitates that teachers possess specific psychological and pedagogical preparedness, in addition to the establishment of suitably accommodating environments for children with

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special needs^[2-4].

There is a well-established research tradition regarding the teaching and learning of students with special needs in specialized schools, alongside the development of concepts within mainstream schools^[5]. Preparing teachers to effectively teach students with special needs, as well as to manage heterogeneous learning groups, is critically important for both pre-service and in-service teacher education programs^[6]. The primary professional and personal attribute of a pre-service teacher in inclusive education must be the readiness to provide pedagogical and psychological support to children facing developmental difficulties and disabilities, including empathy, tolerance, instructional optimism, compassion, and accountability for their priorities and outcomes^[1]. Hence, this paper was positioned in understanding the inclusivity biases of special education (SPED) college students and how these generally influenced their inclusive practices in the classroom.

SPED college students in the Philippines are expected to complete their course after intensive on-the-job training in classroom settings. Service-learning opportunities are different forms of experiential learning that integrates academic coursework with practical experiences in the community^[7]. Service-learning is common in teacher education programs, such as internships^[8,9]. However, pre-service teachers for special education often face setbacks in teaching students with special needs. For example, having all learners within a single classroom may introduce new challenges, while also considering the diversity of learners and their unique needs^[1]. This approach requires teachers to develop specialized skills for effectively supporting students with special needs, not to mention their personal biases could have impact on the way they adapt to inclusive classroom. While teachers may hold the belief that inclusion is beneficial, they often report feeling unprepared to implement inclusive practices for students with special needs^[10,11]. Meanwhile, Woodcock et al.^[11] suggested that investigating methods to enhance teachers' understanding of carrying out inclusive practices, while concurrently strengthening their self-efficacy, is essential for further development.

This paper was expected to discuss the inclusivity biases among SPED college students with emphasis on how to deal with these biases and how they impact the inclusive practices in classrooms. Beliefs about learning and teaching, along with perspectives on disability, influence the assessment of inclusive compared to exclusive education models^[12]. Fives and Buehl^[13] state that beliefs signify a person's view of reality or what a person perceives as true, regardless of the presence of supporting evidence. Beliefs possess sufficient personal validity and credibility to influence behavior and thought processes. When the belief system held by the teachers does not correspond with the intended change, it creates an obstacle to implementation^[14]. To attain inclusion, it is insufficient for teachers or future teachers to possess an in-depth understanding of students' needs in school. Future teachers must embody particular attitudes, competencies, skills, and methods that, when implemented in their instructional practices, promote high-quality education for all learners. Thus, understanding and evaluating their perspectives on diversity serves as essential for establishing an inclusive classroom^[15]. Following that, this paper wanted to establish the understanding about students' inclusivity biases and how these affected their inclusive practices in classrooms.

2. Literature review

Teachers' positive dispositions towards inclusion are essential for the effective implementation of inclusive practices in classrooms^[16-18]. Teachers play an essential part in inclusive education, as their conduct and actions are anticipated to embody inclusive practices within educational institutions^[19]. Consequently, there has been considerable scholarly attention directed towards "teacher-related factors"^[20]. Most teachers demonstrate positive attitudes towards the inclusion of children with special educational needs, concurrently indicating the necessity for adequate teacher preparation regarding the specific requirements of students with

disabilities^[21]. To extend this understanding, this paper sought to understand the perceptions of SPED college students reflecting their personal biases and concerns about inclusive accommodation of pupils with special needs. This in turn, provided contexts on the barriers and potential opportunities for promoting equity in classrooms.

Teachers' perspectives and attitudes are influenced by multiple elements, including qualifications, experience, and pedagogical background, which can significantly affect the success or failure of an inclusive process^[22]. For SPED college students, they may have insufficient training and experience on how to handle inclusive education, and their actions were primarily driven by their theoretical knowledge. Training is essential for college students to explore their prospect industry through first-hand experiences^[23,24]. Understanding the inclusivity biases of SPED college students could shed light on how to effectively target and address these biases early in their training. By identifying specific areas where future educators may feel uncertain or lack confidence, institutions can design professional development programs and curricula to better support these students.

There is increasing apprehension surrounding teachers' views of inclusive education and their preparedness to incorporate students with disabilities into the general learning environment to instruct them alongside their non-disabled peers^[25]. Positive perceptions among general and special education instructors are essential for effective teamwork. The efficacy of inclusion initiatives in schools may be compromised by personal beliefs and training deficiencies, resulting in inadequate preparation for addressing learning difficulties^[26]. Although educators hold favorable views of inclusive education and endorse such pedagogical techniques, prior research has indicated a negative disposition towards its execution^[27]. For example, in her dissertation, Sharek^[28] revealed that some teachers express dissatisfaction with the extra time and effort required to support children with practical needs. The most concerning discussions she encountered with colleagues occur when they indifferently express their reluctance to accept students with disabilities, citing the additional time and effort required for lesson preparation and necessary accommodations to ensure an inclusive educational experience.

When searching for studies about SPED college students and their inclusivity biases, the knowledge was limited, while mostly focused on in-service teachers. However, one critical study guides this direction, shifting focus toward pre-service teachers undergoing teacher education and training in Romania. Luștea^[29] discovered that pre-service teacher's personal connection to an individual with special educational needs correlates with more favorable attitudes towards inclusion. It is advised that teacher preparation programs provide pre-service instructors with the opportunity to acquire direct experience in instructing students with special educational needs. This can be accomplished by increasing the hours allocated to professional practice, integrating placements in both inclusive and special education environments (beyond general education classes), and promoting volunteer opportunities in inclusive schools. Such understanding could shape the future of inclusive education, as future teachers become more exposed to training and knowledge.

Multiple lines of research indicate that teacher's self-efficacy in inclusive activities correlates with their views towards inclusive education^[30,16]. Malinen, Savolainen, and Xu^[31] determined that the self-efficacy of Chinese teachers in cooperating with colleagues and staff was the most significant and sole predictor of their attitudes regarding inclusive education. A study by Sharma and Jacobs^[32] similarly revealed that self-efficacy in cooperation favorably influenced teachers' attitudes in both the Indian and Australian samples. Thus, educators exhibiting higher self-efficacy scores about inclusion demonstrated a more favorable disposition towards inclusion overall, particularly with the integration of children with disabilities^[19]. This paper was also concerned in understanding the concept of self-efficacy among SPED college students, and how it

influenced their biases and inclusive practices for their pupils. These SPED college students undergone months of on-the-job training in academic institutions that offer special education. Prior to implementing new pedagogical strategies for inclusive classrooms, teachers may have to first adjust their belief systems for inclusive education, a process that is difficult and intellectually demanding^[33]. Many teachers' preexisting beliefs may contradict the fundamental premise of inclusive education, hindering the implementation and sustained application of inclusive reforms^[34].

Similar findings were found in the context of Philippine inclusive education practices. Magtuba and Caballero^[35] conducted a study about inclusive education practices in Davao Region, Philippines. They discovered that inclusive education practices among SPED teachers in the region is very high, significantly influenced by teacher empowerment, attitude, and commitment. Of these factors, teacher commitment emerged as the strongest predictor of effective inclusive practices, followed by teacher empowerment and teacher attitude. Judilla et al.^[36] provided support for this in their study. Their findings revealed that teachers in General Santos City, Philippines were knowledgeable about inclusive education and expressed positive views towards inclusion. They suggested that educational institutions must furnish adequate learning support personnel and resources, with comprehensive specialization courses that equip educators with the requisite techniques for executing special education strategies and integrating theoretical concepts with practical application in the classroom.

This paper wanted to address the gap about the presence of inclusivity biases among SPED college students, and how these biases affected their accommodation practices when dealing with pupils with special needs. Recognizing the importance of early training and skill development, this study highlighted a valuable opportunity to equip future SPED teachers with the competencies necessary to develop inclusive environments. By addressing these biases early in teacher preparation, the study seeks to contribute to more effective and empathetic accommodation practices, significantly supporting the long-term success of inclusive education.

3. Methods

3.1. Research design

This paper was an exploratory study about the learners' biases and accommodations of inclusive education classrooms. Exploratory studies are widely recognized for their capacity to open understanding around emerging or poorly understood phenomena, allowing researchers to gain preliminary insights that can inform future research^[37]. Exploratory research does not aim to test or confirm hypotheses but rather seeks to generate new insights and document trends^[38,39]. This type of research is particularly valuable in areas where there is limited prior knowledge, as it lays a concept from which more structured research can be developed^[40,41]. A key strength of exploratory research lies in its qualitative flexibility, as researchers often employ open-ended interviews, surveys, or observations to identify patterns and themes. This approach allows for in-depth analysis of the complexities of social or psychological phenomena, producing rich, detailed data that illuminate primary patterns within a topic^[42-44]. Despite occasional critiques regarding their perceived lack of rigor, exploratory studies are defended for their strategic role in efficiently gathering preliminary data^[39,45].

3.2. Participants and sampling

Sampling in exploratory research often centers on small, specifically chosen groups, as the focus is on in-depth understanding rather than broad generalizability^[46]. This sampling approach frequently relies on purposive sampling, a non-probability technique that allows researchers to intentionally select participants

based on characteristics directly relevant to the research question^[47,46]. In exploratory contexts, purposive sampling is invaluable as it enables the selection of individuals with firsthand experience or knowledge of the phenomenon under investigation, maximizing the quality of insights gathered^[48,49]. In qualitative studies, particularly within phenomenology, narrative inquiry, and case study designs, small sample sizes ranging from one to 20 participants are generally adequate^[50]. Hence, this paper had reasonable sample of 16 participants to be interviewed. Given the exploratory goal of identifying key patterns, this flexible, smaller sampling approach is ideal for refining initial concepts and uncovering emergent themes that larger samples might dilute^[40,51]. In selecting participants, college students were purposively sampled from a higher education institution in Province of Biliran, Eastern Visayas, Philippines, that offer Bachelor of Science in Special Education. Participants were selected based on the following criteria: (1) current enrollment in a Bachelor of Science in Special Education program; (2) active engagement in courses on special education theory, methods, or practicum; (3) completion of at least one full year of coursework in the major; (4) good academic standing with a GPA above the program's minimum requirement; (5) preference for those involved in practicum or student-teaching assignments; and (6) minimum age of 18 to provide informed consent.

3.3. Research instrument

An interview guide was developed to gather the participants' narratives about inclusive education biases and accommodations. Semi-structured interview guide in qualitative research is strategic and systematic designed to balance flexibility with structure, ensuring both in-depth data collection and alignment with research objectives^[52,53]. Semi-structured interviews allow participants to share their experiences and perspectives freely while guiding the conversation to address essential themes and research aims^[54]. Creating such a guide begins with establishing prerequisites, including a clear understanding of the research context and objectives, which help inform preliminary question design^[53]. To refine these questions for clarity and effectiveness, pilot testing is conducted, with final adjustments made based on feedback, ensuring that questions are accessible and encourage detailed responses^[55,56]. Expert reviews are also commonly conducted to validate the guide's relevance and alignment with study objectives, improving its reliability^[57]. Designed with structured themes and topics, these interviews prompt comprehensive responses while minimizing potential biases like social desirability^[58]. The semi-structured approach not only serves as a roadmap for ensuring all key topics are discussed but also allows interviewers to delve further into participant responses, enabling additional clarification and exploration^[59,60]. The final interview guide is presented in **Table 1** where each objective had 5 interview questions to be asked.

Table 1. Final interview guide questions.

Research Questions	Guide Questions
How do college students' biases influence their perceptions and attitudes toward inclusive education in the classroom?	<ol style="list-style-type: none"> 1. What personal biases do you believe you hold regarding students with diverse needs in an inclusive classroom? 2. How have your biases shaped your attitudes toward inclusive education and its importance? 3. Can you provide examples of how these biases have influenced your interactions with pupils in an inclusive setting? 4. In what ways do you think biases can affect the overall classroom environment for all students? 5. How can awareness of biases improve your understanding and acceptance of inclusive education practices?
What are the barriers in accommodating diverse learners within an inclusive educational environment?	<ol style="list-style-type: none"> 1. What challenges do you encounter when trying to accommodate pupils with diverse learning needs? 2. How do institutional policies or resources impact your ability to support inclusive education? 3. Can you describe any specific experiences where you felt unprepared to accommodate diverse learners? 4. What role do peer attitudes play in creating barriers to inclusivity in the

Research Questions	Guide Questions
Question 3: How can educators promote equity in the classroom by addressing learners' biases and encouraging inclusive practices?	classroom?
	5. How do you think these barriers can be addressed to improve the learning environment for all students?
	1. What strategies do you think educators should use to help students recognize and address their biases?
	2. How can educators create a more inclusive classroom environment that encourages equity among all learners?
	3. Can you suggest specific practices that educators could implement to foster inclusivity and acceptance?
	4. In your opinion, how important is ongoing training for educators in promoting inclusive education?
	5. How can collaboration between students and educators enhance the accommodation of diverse learners in the classroom?

Table 1. (Continued)

3.4. Data gathering procedure

Interviews were the primary data source for this study. One-on-one interviews are a cornerstone of qualitative research, providing a rich method for collecting in-depth data on participants' personal experiences and the meanings they ascribe to them^[61,62]. Through these interviews, researchers engaged actively with participants' narratives, having a process that emphasizes listening and interpretation. Narratives serve as powerful tools for individuals to make sense of their experiences, offering frameworks for understanding behavior and emotions^[63]. Phenomenological research especially relies on interviews to delve into the lived experiences of individuals, capturing personal insights rather than focusing on group dynamics or cultural interpretations^[64,65]. Several methods were positioned to conduct one-on-one interviews with the participants. For example, they established clear objectives, conduct background research, and define key thematic questions^[66,67], creating a comfortable environment for participants, ensuring confidentiality, and using simplified language are critical practices that contribute to more open and reflective responses^[68]. Interviews often follow a conversational and semi-structured format, which maintains a natural atmosphere while also guiding discussions to address key topics^[69,70]. Language posed a significant limitation in conducting interviews with students. To address this, they were encouraged to speak in their preferred language or dialect, promoting comfort and ease in expressing their thoughts.

3.5. Data analysis

The current study utilized narrative data as its primary source, employing thematic analysis to explore the insights gained from one-on-one interviews. Thematic analysis, as defined by Braun and Clarke^[71], is a systematic approach for identifying, organizing, and interpreting patterns or themes within qualitative data. This accessibility and flexibility are critical characteristics that contribute to its popularity in qualitative research^[68,72,43], making it particularly well-suited for exploratory studies. In this research, thematic analysis allowed for an effective engagement with the data, as themes and patterns emerged organically during the analytical process. The study specifically employed reflexive thematic analysis to investigate students' biases regarding inclusive education and how to promote equity in the classrooms. Reflexive thematic analysis is characterized by the active role of the researcher in interpreting the findings, highlighting how their subjectivity can enhance rather than obstruct the analysis^[73,74]. This approach embraces the researcher's engagement with the data as a means of deepening the analysis, that is, *being reflexive*. The flexibility inherent in reflexive thematic analysis allows researchers to establish a viewpoint that can inform the interpretation of the data, ensuring that the analysis remains closely aligned with participants' experiences^[74]. To minimize biases in interpretation, an inductive approach was employed within the thematic analysis framework, allowing researchers to derive codes and themes directly from the data rather than relying on

pre-existing theories or hypotheses^[71]. Braun and Clarke^[75] have outlined phases for conducting reflexive thematic analysis (**Figure 1**), which further ensure methodological rigor while allowing for flexibility in the analytical process. The iterative nature of this analysis permits researchers to revisit previous phases, refining their understanding and interpretation of the data as they identify themes^[76].

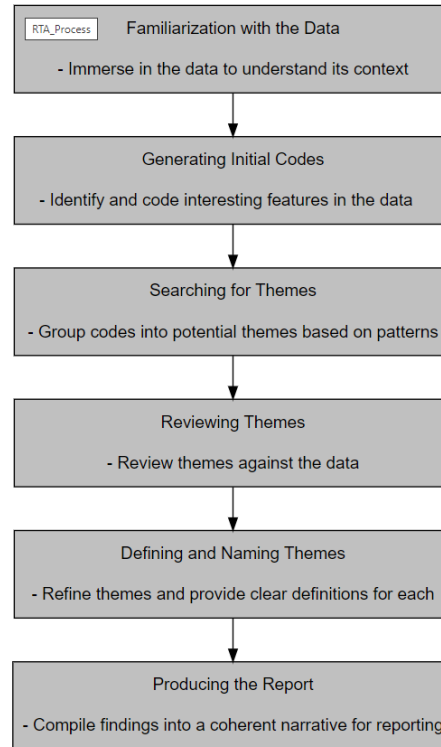


Figure 1. Six phases of reflexive thematic analysis.

4. Results

Question 1: How do college students' biases influence their perceptions and attitudes toward inclusive education in the classroom?

The findings revealed that college students' biases shape their perceptions and attitudes toward inclusive education in the classroom, categorized into three main themes: *bias on skills*, *bias on learning*, and *bias on needs*. Students reflect on their discomfort with differences, which often leads them to underestimate or overlook the capabilities of their pupils with unique learning needs. Many express discomforts with communication differences, revealing how their *fear of saying the wrong thing or making it awkward* often limits open discussions with pupils who communicate differently. This lack of confidence can lead to unintentional isolation or assumptions, influencing their approach to inclusivity and engagement in the classroom. Students often struggle to understand the *specific accommodations* required by pupils, particularly under time constraints. The pressure of meeting these needs alongside regular academic demands can result in feelings of *frustration* and *overwhelm*.

Theme 1: Bias on skills

Bias on skills reveals how biases influence perceptions of student capabilities, particularly in collaborative and participatory settings. Many students experience uncertainty and hesitation when it comes to assigning tasks, often expressing *anxiety about how to delegate tasks*. This reluctance suggests that biases

impact not only their expectations of others' abilities but also their own confidence in managing diverse skills within group activities.

“Some students forget they have their own strengths and skills, just like anyone else.”

“Sometimes, when teaching students, I feel anxious about how to delegate the tasks to them.”

A notable aspect of this bias is how discomfort with differences can lead to avoidance behaviors. Some students admit that *discomfort led them to avoid working with pupils who have special learning needs*, as they feel *awkward reaching out*, worried that they may need to provide *special treatment*. This unease can result in a lack of engagement with pupils who might benefit from a more inclusive approach. This discomfort often arises from feelings of awkwardness or uncertainty, leading to hesitancy in reaching out. When individuals believe that certain students may require *special treatment*, it can create a psychological distance, causing them to disengage rather than actively support these students.

“My discomfort with differences led pupils to avoid working with those who have special learning needs.

“I felt awkward reaching out, thinking they might need special treatment, which made me distant.”

When students feel that *assumptions about who will excel discourage others from sharing their thoughts*, it reveals a tendency to underestimate those who do not fit conventional expectations. This perception can impact classroom dynamics, where students who do not align with these preconceived notions may feel less inclined to participate, potentially missing out on opportunities to demonstrate their unique strengths and skills.

“I feel that biases lead to assumptions about who will participate or excel, which can discourage those who don't fit that mold from sharing their thoughts or getting involved.”

Theme 2: Bias on learning

Bias on learning highlights a perception that inclusive practices may complicate or even disrupt the educational process. Initially, there is a sense of hesitation around *focusing on diverse needs*, with some students fearing that accommodating differences might detract from overall learning. This perception often stems from *discomfort with differences*, which creates skepticism toward inclusive education and questions its effectiveness.

“I initially thought that focusing on diverse needs could disrupt learning.”

“I often felt uncomfortable with differences, which made me skeptical about inclusive education.”

“I've felt unsure about how to delegate tasks when a student has different needs.”

In the learning process, uncertainty about *how to delegate tasks* and *how to approach discussions with students who had different communication styles* reveals an underlying lack of confidence in managing diverse needs within a learning environment. This lack of confidence often translates into *fear of saying the wrong thing*, which keeps individuals distant, leading to an absence of meaningful engagement. The absence

of *specific guidelines or conversations* further exacerbates these challenges, causing students to *resort to guessing*, which often results in misunderstandings and miscommunications.

“I often felt unsure how to approach discussions with students who had different communication styles.”

“My fear of saying the wrong thing kept me distant.”

“Without specific guidelines or conversations, I sometimes resort to guessing, which can lead to misunderstandings.”

“I wanted to make sure they felt comfortable speaking, but I didn’t know how to approach the topic without making it awkward.”

Theme 3: Bias on needs

Bias on needs revealed significant concerns regarding the complexities of accommodating student requirements in educational settings. A recurring sentiment among participants is the tendency to *do more out of fear* of inadequately meeting the needs of pupils who require additional support. This indicates a heightened sense of responsibility, yet it also reflects anxiety about failing to provide appropriate assistance.

“I often end up doing more out of fear of not meeting their needs properly.”

“I sometimes struggle with understanding the specific needs of students who require accommodations.”

“There’s a lot of variation in what people need, and without clear communication, I can feel unsure about how to support them effectively.”

The pressure of *tight deadlines* exacerbates feelings of frustration, making it difficult to allocate sufficient time to accommodate everyone’s needs effectively. This results in participants feeling *rushed* and concerned that they are not doing enough to assist pupils requiring different methods of learning. The sense of being *overwhelmed* while trying to navigate these complexities illustrates the emotional toll that the responsibility of supporting diverse learning needs can take on students.

“I want to support pupils with special needs, but sometimes there just isn’t enough time to accommodate students effectively, which can lead to frustration on both sides.”

“I find that when we have tight deadlines, it’s hard to give everyone the attention they need.”

“I often feel rushed and worry that I’m not doing enough to support my pupils who require more time or different methods of learning.”

“I often feel overwhelmed when trying to figure out how best to support pupils who have different learning preferences.”

Question 2: What are the barriers in accommodating diverse learners within an inclusive educational environment?

The findings revealed significant barriers encountered in accommodating learners within an inclusive educational environment, organized around three key themes: *organizational barriers*, *limited awareness*, and *personal barriers*. *Organizational barriers* highlighted the disconnect between institutional policies promoting inclusivity and students’ understanding of these initiatives. *Limited awareness* points to a lack of understanding surrounding the needs of individuals within inclusive settings. Participants expressed the

necessity for mandatory workshops aimed at enhancing awareness about inclusivity, recognizing that misconceptions can lead to bullying behaviors. *Personal barriers* reflects the emotional challenges faced by students who wish to contribute to a more inclusive environment but feel ill-equipped to do so. The desire to create a supportive atmosphere is often met with uncertainty about how to address the needs of pupils without drawing unwanted attention to them.

Theme 1: Organizational Barrier

Organizational barriers reveals significant challenges related to the implementation of inclusive practices within educational institutions. A critical aspect of this theme is the gap between institutional policies and student awareness; while schools may promote inclusivity, many students remain uninformed about the specifics of these policies. This lack of knowledge creates obstacles in translating institutional intentions into practical actions within the classroom.

“I’ve noticed that while our university promotes diversity, many students don’t even know what those policies entail.”

“If institutions don’t prioritize inclusivity at all levels, it becomes challenging for us to implement these practices in the classroom.”

Theme 2: Limited of Awareness

Limited awareness highlighted critical gaps in understanding and knowledge regarding inclusive education within the academic community. A notable concern was that many individuals remain unaware of their needs, which can lead to discomfort and even ridicule in social settings. This lack of awareness not only affects the individuals directly but also influences the overall classroom environment, perpetuating a cycle of misunderstanding and exclusion.

“I think implementing mandatory workshops on inclusivity and diversity could help raise awareness.”

“Some people are not aware about their needs. Sometimes, they make fun of them.”

Many of those who engage in bullying behaviors often lack adequate knowledge about what inclusive education entails. This underscored the importance of awareness-raising efforts, which could not only inform individuals about inclusivity but also cultivate a more supportive and respectful educational climate.

“For me, as a student teacher, I feel that many of us still lack awareness about being inclusive.”

“Most of those who bully have less knowledge about inclusive education.”

Theme 2: Personal Barrier

Personal barrier highlighted the internal challenges individuals face when attempting to promote inclusivity within educational settings. This theme reflected a desire to create a supportive environment; however, it is often met with uncertainty regarding how to effectively address the needs of others. The feeling of inadequacy in knowing how to make pupils feel comfortable can hinder efforts to encourage open communication and participation.

“I wanted to help create a more inclusive environment, but I didn’t know how to address their needs or make them feel comfortable speaking up.”

“I’m not sure how to do that without drawing attention to them, which might make it worse. I wish I had more tools to create a supportive atmosphere.”

Question 3: How can educators promote equity in the classroom by addressing learners’ biases and encouraging inclusive practices?

In examining how educators can promote equity in the classroom by addressing learners’ biases and encouraging inclusive practices, three key themes emerge: *reflection*, *collaboration*, and *training*. *Reflection* emphasized the importance of incorporating reflective activities such as journaling and group discussions. These practices encourage students to explore their own biases and share personal experiences, illuminating how these biases influence interactions. *Collaboration* highlighted the value of teamwork among students to dismantle barriers. By facilitating group work in teams, teachers can create an environment that encourages understanding and empathy. *Training* underscored the necessity of ongoing professional development for educators. As education evolves, it is essential for teachers to stay informed about best practices for inclusivity. Regular training ensures that educators do not unintentionally reinforce biases or overlook the needs of learners from various backgrounds.

Theme 1: Reflection

Reflective activities, such as *journaling* and *group discussions*, provide students with the opportunity to delve into their thoughts and feelings without the fear of judgment. This process not only promotes personal growth but also aids in identifying and challenging existing biases, allowing students to uncover underlying patterns in their thinking.

“I think we should incorporate reflective activities, like journaling or group discussions, that encourage students to examine their own biases. Sharing personal experiences can help illuminate how biases affect our interactions.”

“I find that journaling really allows me to explore my thoughts without judgment. It helps me recognize patterns in my thinking that I might not notice otherwise, making it a great tool for addressing biases.”

Facilitating *open dialogues* around sensitive topics such as race and gender is also essential for fostering a culture of reflection. By establishing a *safe space* for these discussions, educators can guide students in processing their emotions and recognizing biases. This approach encourages honest conversations that can illuminate the complexities of identity and its intersection with education.

“Facilitating open dialogues about race, gender, and other identity factors in a safe space can encourage honest conversations.”

“Educators can guide these discussions to help students process their feelings and recognize biases.”

Real-life examples and *case studies* makes these discussions more relatable, helping students to connect theoretical concepts to practical implications. Engaging in reflection not only enhances self-awareness but also cultivates critical thinking skills, enabling students to consider their roles in promoting equity and inclusivity within their educational environments. Through reflective practices, students are encouraged to challenge their assumptions and contribute to a more understanding and supportive classroom atmosphere.

“Incorporating real-life examples or case studies can make these discussions more relatable.”

“It allows us to see the practical implications of biases and encourages us to think critically about our roles in these issues.”

Theme 2: Collaboration

Collaboration highlights the importance of cooperative interactions in enhancing the educational experience for both students and educators. By facilitating *group work* and encouraging teamwork, educational environments can create a more open atmosphere that encourages dialogue about challenges and successes. This approach helps to dismantle existing barriers, developing a sense of community and shared responsibility among participants. Collaboration allows students to engage with one another, learning from each other's *experiences* and *perspectives*. Such interactions not only promote understanding but also cultivate empathy, enabling students to appreciate the unique contributions of their peers.

"I think collaboration helps break down barriers between students and educators. It creates a more open environment where we can discuss challenges and celebrate successes together."

"Facilitating group work with diverse teams encourages collaboration and understanding."

"It helps students learn from each other's experiences and perspectives, which can break down barriers and promote equity."

Theme 3: Training

As educational paradigms shift and evolve, it becomes essential for educators to remain informed about *best practices* that enhance their ability to support all students effectively. This ongoing training ensures that teachers are equipped with the latest knowledge and skills needed to address the varied needs of their learners.

"Ongoing training is crucial because education is always evolving. Educators need to stay updated on best practices for inclusivity to effectively support all students."

Regular training sessions are vital in preventing the unintentional reinforcement of *biases* and in ensuring that educators do not overlook the specific requirements of students. Through continuous professional development, teachers can cultivate a heightened awareness of their actions and language, recognizing their potential impact on students from varied backgrounds. This awareness is crucial in mitigating *misunderstandings* that may arise in the classroom due to a lack of knowledge or outdated practices.

"I believe that without regular training, teachers might unintentionally reinforce biases or overlook the needs of diverse learners. Continuous professional development helps them stay aware and responsive."

"I've seen how a lack of training can lead to misunderstandings in the classroom."

"Teachers who don't keep learning may not realize the impact of their words or actions on students from different backgrounds."

5. Discussion

Teachers' belief systems are collection of dynamic and consistent perspectives held by teachers regarding a specific subject, which informs their perceptions, influences their interpretation of new information and occurrences, and serves as their working model of the world^[77,78]. Teachers who have

favorable perceptions and emotions toward a specific set of activities are more inclined to implement those practices in the classroom^[78]. However, if a teacher's preexisting ideas and experiences contradict the reform method, such attitudes and experiences may hinder the implementation of the change. Understanding teachers' belief systems toward inclusive education is essential, as it highlights the importance of supportive practices, addresses potential biases, and develops a more inclusive classroom environment.

The belief systems of teachers toward the inclusion of students with special needs may elucidate disparities between policy and implementation^[34]. Negative attitudes, stereotypes, and misconceptions regarding impairments may affect educators' perceptions of the skills of students with disabilities and their prospects for success in inclusive classrooms^[79]. This paper discusses various biases that special education majors hold when working with students who have special needs in the classroom. Positive attitudes of instructors towards inclusive education promote actions that ensure the effective inclusion of all students^[80]. Similar argument guided this study, as future special education teachers should be mindful of their personal belief systems to create an effective and inclusive classroom.

Many teachers' belief systems may contradict the basic philosophy of inclusive education^[81], hindering the implementation and sustainable application of inclusive reforms^[14]. Sharek^[28], in her 13 years at Sunnyside School District, she observed some teachers hold deficit beliefs about students with disabilities, often viewing accommodations as an added burden. This sentiment is reflected in casual remarks from colleagues who express reluctance to include students with disabilities due to the extra time and effort required for inclusive instruction. The educational needs of children with disabilities are inadequately addressed, and the system fails to facilitate their access to education. Dankyi et al.^[82] discovered that prejudice in educational settings promotes tendencies that differentiate, exclude, or limit individuals or groups with impairments from accessing quality education. Due to these disparities, numerous children with disabilities are not fully benefiting from education.

In this paper, it was observed that special education majors also hold biases toward pupils with special needs. Many students feel uncomfortable or uncertain about how to approach differences, leading them to underestimate or avoid interaction with students requiring special accommodations. Some students expressed skepticism toward inclusivity, fearing that accommodating various needs might disrupt overall learning. This bias is essentially not a form of discrimination toward pupils with special needs, but a reflection of their self-efficacy towards meeting their needs. Teachers possessing a greater degree of self-efficacy are likely more adept at modifying methods of instruction to address the needs of students^[11]. Teachers with low self-efficacy about the implementation of inclusive practices may perceive themselves as incapable of integrating students with disabilities into their classes^[28]. As a result, they exert less effort in adapting their teaching to accommodate the needs of their students^[83]. Similar phenomenon was observed in this study where college students manifested biases because of their low self-efficacy in inclusive education. For example, one student revealed that *"I wanted to make sure they felt comfortable speaking, but I didn't know how to approach the topic without making it awkward."* This reflects students' bias toward their pupils' capability to understand a topic like others. Another student noted that *"I often feel overwhelmed when trying to figure out how best to support pupils who have different learning preferences."* Because of these biases, college students were unable to meet the needs of their pupils, affecting their overall teaching effectiveness and the classroom inclusivity. Basically, these biases can transcend as teachers' beliefs influencing their cognitive appraisals (attitudes), emotional appraisals (feelings), and self-efficacy^[28]. These aspects are likely to affect student teachers' likelihood to be "inclusive" in their classrooms.

Beliefs are the acknowledgment that a proposition is true or that something is present. Everyone has personal views that develop during their adolescence from cultural traditions and life experiences. By the moment a student enters college, these personal ideas are firmly established, shaped by individual experiences, education, and formal knowledge^[84,85]. Teachers' conviction in their pedagogical skills and their beliefs on inclusive education are critical determinants in the execution of inclusive education for all^[86]. Consistent with early studies, teachers with high self-efficacy are likely to employ inclusive pedagogical strategies to address the diverse needs of learners in their classrooms, whereas others may exhibit negative attitudes towards the inclusion of varied student groups and may be less equipped to facilitate learning through an inclusive framework^[87,88,11]. Because of this, college students suggested to expose them to inclusive education trainings and professional development opportunities to develop their skills necessary for inclusive education. Dignath et al.^[35] discovered that teachers gain advantages from particular vicarious and mastery experiences, highlighted by the significance of field experience within inclusive classroom settings. The integration of theoretical lessons, practical learning within inclusive classrooms, and reflective practices on these experiences serves to integrate knowledge acquisition with hands-on application, thus encouraging shifts in belief systems. One student explained about reflection saying, *"I think we should incorporate reflective activities...that encourage students to examine their own biases. Sharing personal experiences can help illuminate how biases affect our interactions."* Consequently, a teacher preparation program might facilitate constructive interactions between general preservice teachers and those engaged in special education training, thereby expanding their learning opportunities and deepening the examination of their beliefs. For students, this experience helps *"...learn from each other's experiences and perspectives, which can break down barriers and promote equity."*

Considering that changes in self-efficacy are associated with the development of more favorable cognitive and emotional appraisals, and that these factors can enhance the likelihood of teachers implementing inclusive practices^[89], it becomes essential to provide support to teachers to strengthen their beliefs in their self-efficacy regarding inclusive education. Since teachers' belief systems greatly influence their actions and openness toward inclusive practices, addressing biases among college students early in their training is equally critical. Exposure to inclusive education, such as through practical field experiences, professional development, and reflective practices, can help students build confidence in supporting diverse learning needs and challenge their preconceived notions about disability and inclusion. Biases are not reflections of overt discrimination but rather reveal underlying uncertainties, discomfort, or lack of confidence when encountering diverse needs in educational settings. These biases often stem from limited experience, insufficient knowledge about disabilities, and a lack of exposure to inclusive teaching strategies, which can lead to unintentional exclusionary practices.

6. Limitations

This study had several limitations that should be acknowledged to contextualize its findings and guide future research. First, the sample size was relatively small (n=16) and limited to participants from a single higher education institution in the Philippines. While the study provided an overview about the biases of special education majors, the homogeneity of the sample restricts the generalizability of the findings. Future studies should include a larger, more diverse sample from multiple institutions to describe experiences and perspectives. Second, the study employed a qualitative approach, which is suitable for exploring nuanced biases and perceptions. However, incorporating a mixed-methods design in future research could offer a more robust understanding by quantifying the prevalence of biases and evaluating the effectiveness of specific interventions. Third, the study's cross-sectional nature captures biases at a single point in time. A

longitudinal approach would provide deeper insights into how these biases evolve as pre-service teachers gain experience in inclusive classrooms and interact with diverse learners. Finally, the study focused primarily on identifying biases but lacks detailed, actionable strategies for addressing them within teacher preparation programs. Including specific interventions, such as scenario-based training or mentorship programs, could offer immediate practical solutions for reducing biases and encouraging inclusive practices.

Given these limitations, several recommendations are proposed. For schools, implementing comprehensive teacher preparation programs that integrate theoretical knowledge with field-based experiences in inclusive classrooms is essential. Structured exposure to real-world scenarios can help future teachers build confidence in addressing students' learning needs. For teachers, professional development opportunities focused on self-reflection, inclusive pedagogical strategies, and collaboration with special education experts can enhance their self-efficacy and readiness to support students with disabilities. Encouraging reflective activities, such as journaling or peer discussions, can also help teachers recognize and address their biases. For stakeholders, including policymakers and educational leaders, prioritizing funding and resources for inclusive education initiatives is critical. This includes supporting the development of inclusive curriculum materials, providing access to assistive technologies, and partnerships between educational institutions and community organizations to promote equity in education. With these, the educational system can work collectively to mitigate biases and enhance the inclusivity of classroom environments.

7. Conclusion

The findings of this study highlighted that bias among special education majors toward students with disabilities stem largely from low self-efficacy, discomfort, and a lack of confidence in addressing students' educational needs. These biases, while not rooted in explicit discrimination, reflect uncertainties and apprehensions about inclusive practices. Such attitudes may hinder effective implementation of inclusive education by limiting the willingness of future teachers to accommodate students with special needs. Recognizing and addressing these biases is crucial to preparing future educators who can encourage a supportive, inclusive classroom environment. To address these biases and improve self-efficacy, college students suggested the integration of more inclusive education training and professional development opportunities in their teacher preparation programs. Reflective activities, practical field experiences, and constructive interactions with both general and special education preservice teachers were seen as essential for challenging preconceived notions about disabilities and developing an inclusive mindset.

The study underscored the importance of incorporating targeted training in inclusive practices within teacher preparation programs. To mitigate biases among students, it is essential to provide special education majors with comprehensive field experiences, vicarious learning opportunities, and reflective practices that challenge their preconceived notions and build confidence in their ability to support diverse learners. Teacher preparation programs should focus on integrating practical learning experiences with reflective exercises to help students examine their biases and develop skills necessary for inclusive education. Having constructive interactions between general education and special education preservice teachers can further promote understanding and collaboration, facilitating an inclusive mindset and approach.

One limitation of this study is its focus on self-reported biases and perceptions, which may not fully capture the complexity of interactions and beliefs held by special education majors. The findings may also be influenced by social desirability bias, as participants may downplay negative biases to align with socially accepted attitudes. Furthermore, the study primarily involved special education majors at a single institution, limiting the generalizability of the findings to other populations or educational settings. Future research

could expand the scope by exploring biases in different regions or institutions and incorporating observational data to gain in-depth understanding of the behaviors and attitudes toward inclusive education among preservice teachers.

Conflict of interest

The authors declare no conflict of interest.

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