UNIVERSITY OF EDUCATION, WINNEBA

Preservice teachers' preparation towards the practice of inclusive education at the University of Education, Winneba

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PRESERVICE TEACHERS' PREPARATION TOWARDS THE PRACTICE OF INCLUSIVE EDUCATION AT THE UNIVERSITY OF EDUCATION, WINNEBA

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2024

DECLARATION

CANDIDATE'S DECLARATION

I, David Uwumborlame Bunbun, declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature: .....

Date: .....

SUPERVISOR'S DECLARATION

I, Prof. Yaw Nyadu Offei, hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of Thesis as laid down by the University of Education, Winneba.

SIGNATURE:……

DATE:……....

CO-SUPERVISOR'S DECLARATION

I, Dr. Daniel Fobi, hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of Thesis as laid down by the University of Education, Winneba.

SIGNATURE:…….

DATE:…….

DEDICATION

I hereby dedicate this thesis to Dr. Daniel Fobi and Mr. Peter Bunbun

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ABSTRACT

The study investigated preservice teachers' preparation towards the practice of inclusive education at the University of Education, Winneba, focusing on the department of Special Education. The study explored their knowledge on inclusive education, preparation on the selection and use of Teaching and Learning Resources, and the ability to adapt teaching strategies, and assessment practices. The study compared two groups of the preservice teachers; both in Special Education and Community-Based Rehabilitation and Disability Studies and Disability Studies units. Using the random number method of the simple random sampling technique, a sample of 320 preservice teachers (160 from each group), a z-test was conducted to determine if significant differences exist between the groups in their preparedness for inclusive education. The findings reveal no statistically significant differences between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in their knowledge on inclusive education, readiness to select and use appropriate TLRs, adapt teaching strategies, and implement inclusive assessment practices. The p-values obtained from the z-tests indicated that any observed differences were not statistically significant, suggesting that both groups are equally prepared in these areas. These results suggest that both Special Education and Community-Based Rehabilitation and Disability Studies training programs are equally effective in equipping preservice teachers with the necessary skills and knowledge for inclusive education. However, the results from the study indicates that, few of both groups of preservice teachers are not prepared for the implementation of inclusive education, and it is therefore recommended that, the management of the University of Education, Winneba. The department of Special Education should modify their curriculum to offer a comprehensive training for preservice teachers in these areas to better equip them for inclusive practices, and to allow preservice teachers to embark on a periodic School Teaching Support (STS) during their training to enable them gain hands on experience on inclusive practices.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Preservice teacher preparation plays an essential role in equipping future educators with the knowledge and skills necessary to effectively practice inclusive education (Kent & Giles, 2016). Inclusive education requires for modifications to be made to the delivery of education to make it responsive and sensitive to the wide range of learning demands where all learners regardless of their disability or economic status are given the opportunity to be educated in a mainstream classroom (McLeskey et al., 2017). This new approach requires teachers' competencies on various pedagogical knowledge on the implementation of inclusive education (Kon–Angna, 2023). Teachers need to develop a comprehensive understanding of the guiding principles of inclusive education in order to successfully navigate this dynamic educational environment. This calls for a thorough understanding of the various learning profiles and unique needs of each student, including those with different skill levels, learning difficulties, and cultural backgrounds. In order to customize instructional strategies and learning materials to meet the individual needs of each student, educators must also gain a comprehensive understanding of the developmental stages and cognitive processes associated with diverse learners (Lindner et al., 2019).

In the last three decades, there has been a significant movement toward inclusive education worldwide (Bhatnagar & Das, 2014). Many declarations enhanced this movement from different United Nations agencies that encouraged countries worldwide to reform educational policies to promote inclusive education, which includes the Salamanca Statement, UNESCO (1994), Convention on the Rights of Persons with Disabilities (CRPD), United Nations, Sustainable Development Goal (SDGs) (Friko, 2022). Ghana developed an inclusive education policy in 2015 with the overarching objective of promoting fair access to education for all

children. As part of this policy, teachers have a central role to play in achieving this objective (Takai, 2020). Takai (2020) further posits that preservice teachers, being the future generation of teachers, therefore need to be trained to develop a strong understanding of inclusive education and the underlying principles that guide inclusive practices. This include knowing the legal and policy framework related to inclusive education, understanding how to adapt appropriate teaching and learning resources, teaching strategies, assessment practices and understanding different learning and behavioral needs and being aware of the linguistic backgrounds and cultural differences of leaners (Sutton et al., 2023). To establish situations where learners are the center of learning, educating teachers about the knowledge of inclusive education requires an organizational and strategical modifications where Preservice teachers receive suitable and pertinent training in order to implement inclusive education (Passanisi et al., 2022).

Preservice teachers should be prepared and exposed to a wide range of teaching and learning resources suitable for diverse learners. This includes instructional materials, assistive technologies and adaptive tools that can cater for the varying needs of students with disabilities or different learning styles. (Katz, 2015) noted that integrating the appropriate selection and use of these teaching and learning resources into the teacher preparation programmes can positively impact future teachers' ability to create inclusive learning environments.

Preparing preservice teachers to effectively implement inclusive education practices is critical for promoting the success and well-being of all students (Takai, 2020). Research emphasizes the importance of preservice teachers' preparation on teaching strategies for inclusive education in providing them with the knowledge skills and attitudes required to support diverse learners (Camara, 2016). Differentiated teaching and learning is a major tool that can enhance an inclusive teaching strategy and can be characterized as an instructional approach featured as a student-centered teaching strategy that allows for the accommodation of a diverse range

of students with varying learning and scaffolding needs (Lindner et al., 2019). Nonetheless, while many teachers recognize that students do not learn in the same way and that their needs vary, only a small number incorporate these differences into their teaching practices (Ertmer et al., 2012; O'Rourke, 2015; Wiliam & Thompson, 2017).

Preservice teachers' preparation on assessment practices involves understanding the knowledge and skills that preservice teachers acquire during their training to effectively assess student learning (Bannister, 2016). Some researches look into the types of assessment methods taught to preservice teachers, their understanding of assessment principles and strategies, and their ability to apply these in real-world classroom settings (Friko, 2022). Preservice teachers frequently receive formal instruction on assessment practices as part of their teacher education programs, which includes areas such as; the purpose of assessment, various assessment methods (formative and summative assessments, performance-based assessments), and assessment principles such as validity, reliability, and fairness are typically covered in this training (Sandholtz, 2011).

The University of Education, Winneba (UEW) in Ghana, is renowned for its commitment to preparing preservice teachers to effectively implement inclusive education (Adu, 2014). This commitment is reflected in UEW's comprehensive training programs aimed at equipping future educators with the necessary competencies to create and sustain inclusive classrooms. Inclusive education is a pedagogical approach that seeks to accommodate all students, regardless of their diverse needs and abilities, ensuring that everyone has access to quality education and it includes students with disabilities, learning difficulties, and other special educational requirements (Needs, 2017).

The preparation of preservice teachers at UEW is essential because these educators play a pivotal role in fostering inclusive classrooms. They are the primary agents who can adapt

teaching methods, create supportive learning environments, and ensure that all students can participate fully in the educational process and not only imparting theoretical knowledge but also providing practical skills and developing the right attitudes towards inclusivity (Needs, 2017).

At UEW, the department of Special Education undergoes training through two distinct programs: Special Education and Community-Based Rehabilitation and Disability Studies and Disability Studies. The Special Education program focuses on equipping teachers with specialized knowledge and skills to support students with a wide range of disabilities and learning needs. This includes strategies for individualized instruction, behavior management, and the use of assistive technologies. The Community-Based Rehabilitation and Disability Studies program, on the other hand, emphasizes a holistic approach to rehabilitation and education within community settings. It trains preservice teachers to work collaboratively with families, communities, and other stakeholders to support the educational and developmental needs of students with disabilities. Both programs are designed to instill in preservice teachers the knowledge, skills, and attitudes necessary for fostering inclusive learning environments. However, despite the rigorous training provided, there has not been a systematic comparison of the effectiveness of these programs in preparing teachers for inclusive education. Understanding the relative strengths and areas for improvement in each program is essential for ensuring that all preservice teachers, regardless of their training path, are equally well-prepared to support diverse learners.

Contextually, this study aims to fill that gap by determining whether there is a significant difference in the level of preparation between preservice teachers from the Special Education and Community-Based Rehabilitation and Disability Studies programs. By evaluating the preparedness of these two groups, the study seeks to investigate and compare their knowledge

on inclusive education, preparation on the selection of appropriate Teaching and Learning Resources (TLRs), teaching strategies and assessment practice in an inclusive classroom.

A thorough search through the libraries of the University of Education, Winneba (UEW), including both online databases such as Scopus, Google Scholar, PubMed, the institutional repository, and physical library shelves revealed that while there have been a few studies on inclusive education in general, limited research specifically examined the preparation of preservice teachers towards the practice of inclusive education at UEW, nor directly compared the preparation of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers within the context of UEW. The few studies conducted in Ghana on preservice teachers' preparation did not include teacher trainees at the universities, rather concentrations were on the colleges of education. For instance, Hassan et al. (2010) conducted a study on Teacher Preparation within a College of Education Teaching Program; Nketsia and Saloviita (2013), conducted a study on preservice teachers' views on inclusive education in Ghana, with focus on teacher training colleges. This study would add to current literature by providing a comprehensive data on preservice teachers' preparation towards the practice of inclusive education.

1.1 Statement of the problem

The goal of inclusive education is to give every student equal opportunity to access high-quality instruction in mainstream classrooms, despite their varied abilities and backgrounds (Fobi, 2023). This means that, inclusive education seeks to foster a culture of acceptance, respect, and appreciation for individual differences, thereby promoting a sense of belonging and empowerment among students. By embracing the philosophy of inclusivity, educators can cultivate a classroom environment that promotes collaboration, empathy, and understanding among students from various socio-cultural, linguistic, and cognitive backgrounds. Through the implementation of varied instructional strategies, appropriate teaching and learning

resources, and inclusive assessment practices, inclusive education aims to cater for the diverse learning styles and needs of every student, facilitating their active participation and engagement in the learning process (Mensah, 2023). However, a significant concern still exists regarding how well-prepared preservice teachers are to practice inclusive education and this adversely affects how they choose the appropriate teaching and learning resources, teaching strategies and appropriate assessment. Friko (2022) posits that, until preservice teachers are given the necessary training and skills, the academic performance of learners in their final West African Examination Council (WAEC) examination would fall across all levels of education.

During informal visits to colleagues on internship from the University of Education, Winneba, in various schools, I observed that many preservice teachers did not select teaching and learning resources that accommodated the diverse needs of learners during their teaching practice. Classrooms often contain students with different learning preferences, including visual, tactile, auditory, and audiovisual modalities. Unfortunately, some of these needs were not taken into account when selecting instructional materials, resulting in reduced engagement and understanding among certain learners. This observation is consistent with findings from previous research, which indicate that preservice teachers frequently struggle to differentiate instruction and select appropriate resources to support diverse learners (Ametepee & Anastasiou, 2015; Florian & Black-Hawkins, 2011). When these needs are not met, some students may be excluded from classroom participation, lose interest, or fail to grasp key concepts, ultimately affecting their academic performance. Wijaya (2019) emphasized that teaching and learning resources must be evaluated and selected before they are implemented in classrooms to ensure availability, appropriateness and suitability for all types of learners. Additionally, it was also observed that some preservice teachers predominantly relied on the lecture method, where the teacher delivers content while students passively receive information. This teacher-centered approach often resulted in a monotonous classroom

atmosphere, with limited student engagement in the learning process. Research has shown that passive instructional strategies can hinder active learning, reduce student motivation, and negatively affect academic performance and attendance (Prince, 2019; Bonwell & Eison, 2021). Furthermore, the assessments administered by some preservice teachers did not adequately reflect learners' diverse needs, as they often failed to accommodate different learning styles, thereby limiting students' opportunities to demonstrate their understanding equitably (Tomlinson, 2014). In some cases, there was also evidence of misinterpretation of assessment data and limited instructional adjustment based on results, which further impacted learning outcomes. However, it was also noted that some preservice teachers made efforts to integrate learners' interests into instruction, particularly through the use of ICT tools. Yet, others appeared hesitant to use ICT-based teaching and learning resources, perceiving them as time-consuming or irrelevant. This reluctance, unfortunately, deprived students of opportunities for meaningful engagement and practical application of concepts, especially for learners who benefit from technology-enhanced instruction (UNESCO, 2019).

Clark and Newberry (2019) discovered that some preservice teachers in the context of higher education consider themselves to be less competent in the use of ICTs, choosing more informational materials and being more focused on engaging and communicative pedagogy. Zhao et al. (2023) suggested that women rate themselves better than men in some areas, such as language and cleaning of environment which informs their choice of resources and not what the learners need or what the curriculum demands. Discussions with preservice teachers revealed that many lacked a comprehensive understanding of the fundamental principles underpinning inclusive practices within the Ghanaian educational context. This observation highlights an urgent need for targeted educational interventions to enhance preservice teachers' awareness and competencies in inclusive education. Similar findings have been reported by Opoku et al. (2021), who emphasized that preservice teachers in Ghana often exhibit limited

knowledge of inclusive education policies and lack confidence in implementing inclusive practices. Moreover, studies by Agbenyega and Deku (2020) and Alhassan and Abosi (2020) indicate that teacher education programs in Ghana frequently do not provide sufficient practical exposure or theoretical grounding in inclusive pedagogies. This lack of preparation contributes to challenges in addressing the needs of diverse learners and in creating inclusive classroom environments.

Furthermore, preservice teachers' unfamiliarity with key legal frameworks such as the Inclusive Education Policy (2015), the Education Strategic Plan (2018–2030), and international commitments like the UN Convention on the Rights of Persons with Disabilities, affirms the necessity of bridging the policy-practice gap. Addressing these deficits requires a multifaceted approach, including comprehensive training programs, interactive workshops, and experiential learning opportunities. As Ametepee and Anastasiou (2022) argue, embedding diversity, equity, and inclusion in teacher training is essential for equipping future educators with the skills to respond to the cultural, linguistic, and socio-economic diversity of Ghanaian classrooms. These initiatives should foster a contextually relevant understanding of inclusive education, enabling preservice teachers to effectively support all learners. Listening to the surprising revelations about the limited familiarity of several preservice teachers with essential teaching and learning resources, diverse teaching strategies, and effective assessment practices was truly eye-opening. This significant insight acted as the driving force behind the initiation of this study, which aims to thoroughly investigate a comparative study between the Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers at the University of Education, Winneba, to ascertain how equipped and prepared they are for the application of Inclusive Education principles in their future teaching practices.

It is essential to establish the fact that, some inclusive studies have been conducted in order to problematize this discourse, which includes the “teacher trainees attitudes towards inclusive

education in Effutu Municipality (Marfo, 2023)", "Pre-service teachers preparation on pedagogy in Krachi West (Branham, 2021)", "Teacher preparation for inclusive education: increasing knowledge but raising concerns (Forlin & Chambers, 2011)", "Assessing teacher preparation for inclusive education (Adigun, 2023)." Despite the University of Education, Winneba's efforts to prepare preservice teachers for inclusive education through its Special Education and Community-Based Rehabilitation and Disability Studies programs, there is a lack of systematic comparison regarding the effectiveness of these two programs. It is important to understand whether there is a significant difference in the preparedness of preservice teachers from the Special Education and Community-Based Rehabilitation and Disability Studies backgrounds in implementing inclusive education. Without this comparison, it remains unclear which program more effectively equips future educators with the necessary knowledge and skills to create inclusive learning environments for students with diverse needs. Literature suggests that, many teacher education programs do not provide sufficient training or coursework on inclusive education and as a result, preservice teachers may lack the knowledge, skills and strategies needed to effectively teach students with diverse needs in inclusive classrooms (Abegglen & Hessels, 2018; Mensah, 2023; Rabi et al., 2018).

In light of the foregoing, the goal of this study was to conduct research on preservice teachers' preparation towards the practice of inclusive education, comparing Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

1.2 Purpose of the Study

The purpose of this study is to investigate preservice teachers' preparation towards the practice of Inclusive Education at the University of Education, Winneba comparing Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers to improve or add to the success story of the implementation policy.

1.3 Objectives of the Study

Comparatively, the objectives of this study were to examine Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers:

1. Knowledge on inclusive education
2. Preparation on the selection and use of appropriate teaching and learning resources
3. Preparation on adapting teaching strategies in an Inclusive classroom
4. Preparation on assessment practices in an inclusive classroom

1.4 Research Questions

Comparatively, the following questions were formulated to guide the study:

1. What is preservice teachers' knowledge of Inclusive Education?
2. What preparation do preservice teachers receive on the selection and use of appropriate Teaching and Learning Resources?
3. What preparation do preservice teachers receive on adapting teaching strategies in an Inclusive class?
4. Which preparation do preservice teachers receive on assessment practices in an inclusive class?

1.6 Hypothesis

The study was guided by the following hypothesis:

$H_0$1: There is no statistically significant difference in the knowledge of inclusive education between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

$H_0$2: There is no statistically significant difference in the preparation preservice teachers receive on the selection and use of appropriate teaching and learning resources

between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

$H_0$3: There is no statistically significant difference in the preparation preservice teachers receive on teaching strategies in an inclusive classroom between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

$H_0$4: There is no statistically significant difference in the preparation preservice teachers receive on assessment practices in an inclusive classroom between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

1.7 Significance of the Study

Preservice teachers serve as conduits through which inclusive teaching practices can be integrated into mainstream classrooms. Therefore, understanding the knowledge base about inclusive education is important and the results from the study will help the University of Education, Winneba identify areas for improvement and implementation of targeted learning programs. A comprehensive understanding of inclusive education will enable preservice teachers create a learning environment that would meet diverse learning needs. This in turn would have a positive impact on the learning experience of all students and creates an inclusive and supportive atmosphere.

The findings would provide valuable insight for the University of Education, Winneba administrators to evaluate and adjust current curricula and training programs for preservice teachers. This will help identify gaps and deficiencies in the training of preservice teachers to select and effectively use appropriate teaching and learning resources. The findings would also help policy makers and government officials in the education sector. This would inform policy decisions about teacher training and curriculum development and ensure that preservice teachers receive adequate training in selecting and using appropriate teaching and learning

resources. This study will help lecturers at the University of Education, Winneba understand the challenges and strengths of student teacher preparation when selecting and using teaching and learning resources.

Moreover, the findings will provide the University of Education, Winneba curriculum reviewers, and the Department of Special Education, allowing for possible revisions to existing programs and preservice education programs on teaching strategies for inclusive classrooms. The findings would help the ministry of education by guiding informed decision-making about inclusive education, teacher training and support for students with disabilities or special educational needs. This, in turn, would enhance preservice teachers' ability to acquire the knowledge and skills necessary to skillfully adapt teaching strategies in inclusive classrooms.

More so, the results of the study would be used as an important quality assurance tool at the University of Education, Winneba. By assessing the effectiveness of current practices in preparing teachers for assessment, these results can help the university improve and strengthen their teacher education programs. This process includes aligning these programs to national standards and proactively eliminating identified deficiencies. This alignment is important to ensure that the assessment practices offered to preservice teachers by the university consistently aligned with the primary goal of promoting student learning and development.

Finally, the study would contribute insightful knowledge to the larger body of knowledge on inclusive education and teacher preparation by addressing any topic of urgent concern in education. Researchers, practitioners, policymakers and organizations working to advance inclusive education can all make references from this. This study would also ensure that the next generation of educators has the skills needed to build inclusive learning environments that support all students' academic success, social cohesiveness, and emotional well-being.

1.8 Limitations of the Study

This study was conducted within a limited timeframe, which posed challenges in scheduling interviews and data collection activities, especially during academic breaks and examination periods. Additionally, financial constraints limited the scope of the study, such as the number of participants that could be engaged and the resources available for transcription and travel. These limitations may have influenced the depth and breadth of data gathered. However, efforts were made to mitigate their effects by focusing on a purposively selected sample, using cost-effective data collection strategies, and adhering to a well-organized research timeline to ensure the credibility and trustworthiness of the findings.

1.9 Delimitation of the Study

This study was delimited to the department of special education focusing on the units of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers. The study focused on the two groups' preparation towards the practice of Inclusive Education at the University of Education, Winneba with the following objectives: Knowledge on Inclusive Education; preparation on the selection and use of appropriate Teaching and Learning Resources; preparation on teaching strategies; and preparation on the assessment practices in an inclusive classroom. The study focused on Level 400 preservice teachers. The choice of the two groups, Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers, was made because they are both trained to become teachers with a focus on inclusive education.

1.10 Operational Definition of Terms

Preservice Teachers: In this study, preservice teachers refer to student-teachers enrolled at the University of Education, Winneba, specifically the department of Special Education who are

undergoing professional teacher training but have not yet been fully certified or assumed full teaching responsibilities.

Inclusive Education: For the purpose of this study, inclusive education is defined as an educational approach that seeks to address the learning needs of all children, including those with disabilities and special educational needs, by ensuring their full participation in regular school settings.

Preparation: Preparation refers to the academic, pedagogical, and practical training provided to preservice teachers at the University of Education, Winneba, aimed at equipping them with the knowledge, skills, and attitudes required to effectively implement inclusive education practices.

Practice of Inclusive Education: This refers to the actual implementation and application of inclusive teaching strategies by preservice teachers during teaching practice, including the use of differentiated instruction, collaboration, and classroom accommodations to support diverse learners.

Pedagogical Content Knowledge (PCK): In this study, PCK refers to the integration of subject-specific knowledge and teaching strategies that preservice teachers are expected to develop in order to effectively deliver inclusive education. This concept is based on Shulman's theoretical framework.

Teacher Education Programme: This term refers to the structured curriculum and training activities provided by the University of Education, Winneba, to develop the professional competencies of future teachers, including aspects of inclusive education.

University of Education, Winneba (UEW): In this context, UEW refers specifically to the institution where the study was conducted, particularly the department of Special Education.

1.11 Organization of the Study

The thesis is presented in five chapters. Chapter one entails the general introduction which comprises the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, hypothesis, delimitation, limitation, significance of the study, and operational definition of terms. Chapter two aimed at reviewing relevant literature relating to the research objectives and the theoretical framework of the study. Chapter three covers the research methodology which includes: research approach, design, sample and sampling technique, population, instrument used in data collection, validity and reliability of research instrument, and ethical consideration. Chapter four covers the presentation and analysis of data collected, the interpretation and discussion of the results. Finally, chapter five deals with the summary, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2. 0 Introduction

This section of the thesis provides a comprehensive review of related literature from scholarly articles, research, books and thesis. Section 2.1 provides a review of the Theoretical Framework. Section 2.2 addresses the conceptual framework. Section 2.3 examines empirical studies pertinent to the objectives. Literature was reviewed under the following strands subjected to the study's objectives:

a. Theoretical Framework
b. Conceptual Framework
c. Preservice teachers' knowledge on Inclusive Education
d. Selection and use of appropriate Teaching and Learning Resources
e. Teaching strategies in an Inclusive classroom
f. Assessment Practices in an Inclusive classroom

2.1 Theoretical framework

This study adopted Shulman's Pedagogical Content Knowledge theory of 1986 (Shulman, 1986). In the 1980s, Shulman introduced pedagogical content knowledge (PCK), which is the blending or amalgamation of pedagogy and subject-specific knowledge. The three core components within PCK that are essential for effective inclusive teaching includes:

a. **Content Knowledge (CK):** This refers to the teacher's understanding of the subject matter itself, encompassing knowledge of facts, concepts, theories, and principles within a specific discipline. For preservice teachers in both Special Education and Community-Based Rehabilitation and Disability Studies programs, strong content knowledge ensures they possess

a solid grasp of the curriculum they will be teaching. A firm foundation in CK is essential for delivering accurate and meaningful instruction (Kleickmann et al., 2020).

b. **Pedagogical Knowledge (PK):** Pedagogical knowledge involves an understanding of the methods and practices of teaching, including classroom management, lesson planning, and instructional strategies. It is essential for fostering an engaging and productive learning environment, especially in inclusive classrooms with diverse learning needs. PK supports the teacher's ability to apply general teaching principles across subjects and learner profiles (Darling-Hammond et al., 2020).

c. **Pedagogical Content Knowledge (PCK):** PCK is the unique integration of content knowledge and pedagogical knowledge that enables teachers to effectively convey subject matter to students. It involves knowing what makes certain topics easy or difficult to learn and understanding students' preconceptions and misconceptions. PCK is widely recognized as a core component of effective teaching and is crucial for adapting instruction to meet varied learner needs (Shulman, 1986; König et al., 2022).

Shulman's framework is used to create teacher preparation courses that emphasize inclusive education (Hassanein et al., 2021). Integrating inclusive education into teacher preparation programs entails incorporating inclusive education into the curriculum, offering training on inclusive education, and forming alliances with institutions of higher learning and other groups that support inclusive education (Moriña, 2019).

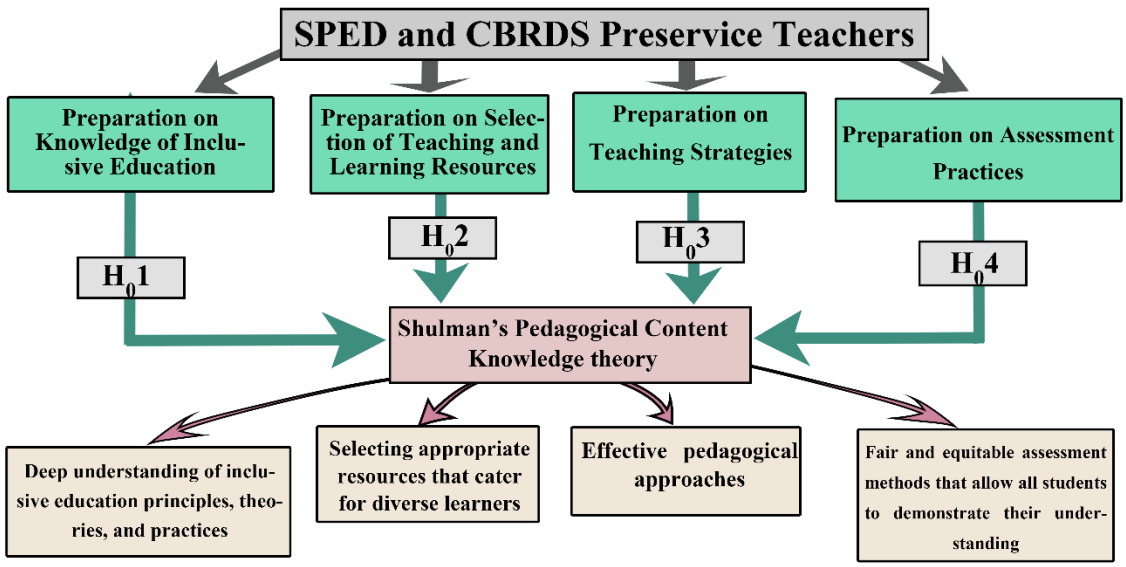
The theory emphasized that, for preservice teachers to improve their knowledge and abilities in inclusive education, professional development opportunities can be provided (Byrd & Alexander, 2020). This may entail instruction on the choice and application of appropriate teaching and learning resources, instructional techniques, and assessment procedures that are inclusive of learners from diverse backgrounds.

Several studies have utilized Shulman's theoretical framework for teachers' preparation on inclusive education (Garrison et al., 2019; Kalyanpur, 2018; Kuma, 2023). In order to meet the needs of diverse learners, the framework places a strong emphasis on the development of teachers' content knowledge and pedagogy knowledge as well as their capacity to integrate this knowledge.

2.2 Conceptual Framework

The theory of Shulman's Pedagogical Content Knowledge guided the development of the conceptual framework for this study. The study sought to investigate preservice teachers' preparation towards the practice of inclusive education at the University of Education, Winneba. The diagram below describes the variables that could influence preservice teachers' preparation towards the practice of Inclusive Education and the possible outcomes of the training:

Figure 2.1



***Source**: Author's Computations from field Data, 2024*

The framework on figure 2.1 was created upon Shulman's PCK theory. The PCK stands for the special fusion of subject-matter expertise and pedagogical knowledge that teachers require to teach a given subject to a variety of learners. Drawing on the comparison of Special Education and Community-Based Rehabilitation and Disability Studies, the independent variables include preparation on Knowledge of Inclusive Education; Selection of teaching and Learning resources, teaching Strategies; Assessment Practices. Four hypotheses were tested from the research questions to ascertain whether there is a significance difference between the preparation of Special Education and Community-Based Rehabilitation and Disability Studies preservice on the independent variables

The mediating factors for effective use of the independent variables include the deep understanding of inclusive education (Workshops, courses, and seminars focusing on Inclusive Education); Selecting appropriate materials that cater for diverse learners (Tactile materials, auditory, visual aids, audio-visual materials; effective pedagogical approaches (Application of Universal Design for Learning principle, peer interactions, grouping for discussion, sharing experience); fair and equitable assessment methods that allow all students to demonstrate their understanding (encourage self-assessment, provide feedback on assessment results, using formative and summative assessment, using multiple measures to assess).

The implication of this study would enable the teacher education programme at the University of Education, Winneba incorporate comprehensive modules on inclusive education, resource selection, teaching strategies and assessment practices. Also, the study would encourage collaborative learning through encouraging preservice teachers to collaborate and learn from each other’s experience. Again, the study would establish a mentoring relationship between experienced inclusive educators and preservice teachers. The study would offer ongoing training to support practicing teachers in refining their inclusive teaching skills. Lastly, insightful knowledge to the larger body of knowledge

This conceptual framework highlights how preservice teachers' knowledge, skills, and practices work together to create successful and inclusive learning environments. It also highlights the symbiotic relationship between Shulman's PCK theory and the various aspects of inclusive education preparation.

2.3 Preservice Teachers' knowledge on Inclusive Education

The successful implementation of inclusive practices in classrooms depends heavily on preservice teachers' knowledge of inclusive education. The literature review emphasizes the significance of comprehending inclusive pedagogy and cultivating favorable attitudes toward inclusive practices. It also emphasizes the significance of taking into account various aspects that affect how preservice teachers develop their knowledge of inclusive education. The development of teacher preparation programs and the general effectiveness of inclusive educational practices can both benefit from more research in this area.

The effectiveness of teachers depends on their knowledge and comprehension of the processes involved in inclusive educational practices (Osisanya et al., 2015). According to Baguisa and Ang-Manaig (2019), many aspiring teachers are unaware of inclusive education. Mamube (2018) posits that, some preservice teachers do not avail themselves for inclusive practices workshops. Preservice teachers might not fully comprehend the concept of inclusive education, a strategy designed to accommodate all students regardless of their learning differences (Wanjiru, 2017). In most institutions preservice teacher education programs, the "Introduction to inclusive education" is frequently the only course that addresses the topic and it is not enough for the preservice teachers to comprehend the knowledge of inclusive practices (Carroll et al., 2003).

Preservice teachers can enroll in a course or program to learn the basics of various disabilities, their diagnosis, management, and rehabilitation (Dally et al., 2019). They contended that, skills

and knowledge must be acquired in order for preservice teachers to successfully implement inclusive teaching methods in their classrooms.

Many preservice teachers only encounter inclusive education in one introductory course that is included in an institution's teacher education program (Carroll et al., 2003). According to research, (Loreman & Earle, 2007; Sharma et al., 2012) those taking these introductory inclusive education courses may benefit from increased knowledge and self-assurance. For instance, (Carroll et al., 2003) found that participants' discomfort levels, sympathy, unpredictability, fear, coping, and knowledge improved after taking brief and required courses on inclusive education.

It is assumed that the general classroom teacher has a certain knowledge and understanding of the needs of various learners, teaching methodologies and curriculum strategies in order to understand the inclusive education process (Florian, 2014). In order to enter a profession that accepts both individual and group responsibility for enhancing the learning and participation of all children, preservice teachers must be prepared (Mensah, 2023). Yirenkyi (2020) argued that training a teacher who is willing to work with students who have special needs necessitates knowledge, skills, and expertise that cannot be taken for granted. He stated further that, importance of the teacher’s role can be more appropriately highlighted and understood within the inclusive education institution, if these skills, expertise, and knowledge are carefully examined, articulated, and communicated. College and university teacher preparation programs are insufficient to prepare new teachers to work in inclusive classrooms (Yirenkyi, 2020). It is therefore essential to prepare teachers to work in more diverse classrooms from the beginning of their teaching careers onward as the world moves toward a more inclusive educational system. It would be challenging for a teacher to accept and provide the necessary attention to a learner with a disability in the classroom without the necessary training in inclusive education policy. Teachers gain the ability to manage students with special needs

through the training and preparation processes (Boadu, 2020). The argument put forth by Duhan and Devarakonda (2018), that modern classroom teachers must be equipped with the necessary knowledge to handle the demanding challenges of the classroom is consistent with this assertion. He added that as a result of these demands, it has become essential to provide working teachers with practical knowledge about students' characteristics, effective institutional and behavior management, techniques, consultation skills, and individualized instruction in order to help them fulfill their roles in both general education and special education.

According to Islam et al. (2022), controversy can occasionally skew people's perceptions of inclusive education. They learned from their research that preservice teachers' lack of knowledge about inclusive education can prevent the concept from being operationalized and practiced in the classroom. Similar to this, Sanagi (2016) contends that preservice teachers' misconceptions of inclusive education would lead to poor practice rather than an environment that is welcoming for students with special needs. However, based on their level of teaching maturity, teachers' understanding of inclusive education varies. They contend that preservice teachers have a very shallow understanding of inclusive education, which can be expanded through intensive instruction and exposure to practical situations.

According to some research, in order to prepare preservice teachers for inclusive education, teacher education institutions should introduce and incorporate courses and programs for inclusive education. According to Gesser and Martins (2019), teacher education programs must be created to change perceptions about charitable/medical models of student support to a social model of inclusion in order to develop pedagogical strategies aimed at including all students, including those with disabilities. Courses and programs can only be developed within an inclusive curriculum in preservice teacher institutions. According to Johnson (2015), the curriculum must be developed in a way that promotes inclusion for inclusive teaching and

learning to occur in preservice teacher institutions on knowledge. Thomas et al. (2010) identified four factors that are crucial for the growth of inclusive teaching and learning. These include aspects of the institution's commitment, the design and delivery of the curriculum, the assessment process, and student feedback. According to Houghton and Anderson (2017), an inclusive curriculum design strategy takes into account students' educational, cultural, and social backgrounds as well as their experiences. An inclusive curriculum takes into account students with disabilities by incorporating objectives, subject matter, and learning materials that reflect their unique lives as well as their collective history and culture (Symeonidou & Mavrou, 2020).

The curriculum must provide a consistent conceptual framework to guide the development of preservice teachers' knowledge of theory and practice (Stites, 2018). He made a strong case for the importance of a consistent conceptual framework in the curriculum created for preservice teachers by Stites in his research in 2018. The researcher also, emphasized how important a framework like this is for directing the growth of preservice teachers' theoretical and practical knowledge of education.

A study by Bekirogullari et al. (2011), determines how well-versed special educators from Cyprus and the United States were in the practices and understanding of the concepts of inclusive education. The researchers aimed to evaluate the educators' comprehension of inclusive practices, which entail giving all students equal opportunities to participate in traditional educational settings regardless of their abilities or disabilities. To gather in-depth information about the participants' knowledge of inclusive education, the study combined qualitative and quantitative research methods. Due to their crucial role in implementing inclusive practices in the classroom and assisting students with different learning needs, special educators from both countries were chosen as the study's target group. Unfortunately, the study's findings showed that special educators from both Cyprus and the United States had

little understanding of the principles and subjects of inclusive education. This result raised questions about their ability to effectively meet the needs of all students in inclusive classrooms given their training and preparation.

The researchers discovered a number of possible causes for the discovered knowledge gaps. One of these factors could be the dearth of opportunities for special educators to receive adequate training and professional development in the area of inclusive education. Additionally, variations in the educators' level of comprehension may have been caused by differences in the educational systems and policies between the two nations. The study highlighted the significance of ongoing and focused professional development for special educators to improve their abilities and understanding of putting inclusive practices into practice. It emphasized the importance of providing thorough training courses and seminars that address the particular requirements and difficulties of inclusive classrooms, fostering a supportive and inclusive learning environment for all students.

These results have implications for efforts to improve special educators' knowledge of inclusive education and to close knowledge gaps among them. This can be accomplished by working together to create and implement efficient professional development programs between educators, decision-makers and educational institutions. The effectiveness of inclusive education can be significantly increased, resulting in better outcomes for all students, regardless of their abilities or disabilities, by arming educators with the necessary knowledge and techniques.

The success of early childhood inclusion is determined by many factors beyond just having access to resources (Dondo et al., 2022). The true essence of successful inclusion lies in the knowledge and expertise held by teachers who play an important role in the process, although having adequate resources is unquestionably important. This claim has been backed up by a number of studies, including those done by (Agbenyega & Klibthong, 2012; Hummer et al.,

2010; Morton et al., 2012). He further asserts that, effective training is important in giving teachers the knowledge and skills they need to foster an inclusive environment that fosters the development of every child, regardless of their unique talents or difficulties, by participating in focused training programs, preservice teachers learn about a variety of teaching strategies, instructional techniques and methods designed to meet the individual needs of each child. As a result, they would be better equipped to accommodate different learning preferences, use adaptive technology and put individualized support plans into practice, fostering an inclusive classroom where every child can succeed.

The importance of knowledge, experience and training in early childhood inclusion is becoming more widely acknowledged by educational institutions and policymakers, and there is an increasing focus on offering teachers' extensive professional development opportunities (Kosi, 2022). He further said that, in order to keep educators abreast of the most recent best practices and methodologies in inclusive education, professional development initiatives are incorporating ongoing support, mentorship and access to resources with research backing. The failure to recognize and address the particular strengths and challenges of individual children is one of the main problems resulting from lack of awareness. Children come from a variety of backgrounds and have unique learning preferences, skills and needs and without a thorough understanding of these variations, teachers may unintentionally miss important stages in a child's development, which can result in achievement gaps and disparities (Eshun, 2019). He argued that, lack of knowledge about inclusive education may also lead to insufficient resource and support system allocation. It may be difficult for schools and early childhood education programs to put the right interventions and strategies in place to satisfy the unique needs of diverse learners. Due to their perception that their needs are being ignored by the system, both the children and their parents or guardians may become frustrated and experience feelings of exclusion. Stereotypes and biases may continue to exist as a result of this lack of awareness.

Unintentionally reinforcing stereotypes about specific groups of learners can have an impact on how they are treated in the classroom. For some kids, this can result in a cycle of low expectations and constrained opportunities, impeding both their overall academic and personal development. Eshun (2019) emphasized that, the creation of a supportive and inclusive learning environment might be hampered by a lack of knowledge about childhood differences.

Dapudong (2014) found that preservice teachers' attitudes toward inclusion and their knowledge of inclusive education are key elements that have a significant impact on the inclusion process and practice. The effectiveness of inclusive education initiatives in educational settings can be greatly increased by making investments in ongoing professional development, encouraging a supportive and inclusive school culture and giving teachers the support, they need.

According to Neilson and Brink (2008), preservice teachers and teacher educators' understanding and dedication are important for the effective implementation of inclusive education. The goal of inclusive education is to meet the various needs of all students, including those with special needs or disabilities, in regular classroom settings. Teachers need to be knowledgeable about inclusive education's guiding principles and best practices if this strategy is to be successful. The Forlin and Chambers (2011) study lends credence to the idea that preservice teachers and teacher educators must have a solid understanding of inclusive education. Their study probably demonstrates how difficulties in the classroom and obstacles to the general success of inclusive practices can result from misunderstandings or lack of knowledge about inclusive education. Teachers can foster an inclusive environment where all students feel valued, engaged and supported with the right preparation and knowledge.

However, Islam et al. (2016) contend that debates can occasionally taint the idea of inclusive education. These debates might result from divergent perspectives on inclusive education or disagreements over how to carry it out. Academics and industry professionals in the field of

education have made a significant discovery as a result of their extensive research and studies. They have discovered that preservice teachers' insufficient understanding of this idea is a significant barrier to the successful implementation of inclusive education in classrooms. They argued that, the goal of inclusive education is to include all students, regardless of their abilities or backgrounds, in the same learning environment and the ultimate objective is to give every learner equal access to high-quality education while fostering a welcoming and encouraging learning environment. Despite the advantages of this educational model, its effective implementation greatly depends on the comprehension and dedication of teachers, especially those who are still in the process of becoming teachers or preservice teachers. Lack of thorough understanding on the part of these preservice teachers can seriously impede the successful implementation of inclusive education in actual classroom settings.

For inclusive education to be successfully implemented, preservice teachers and teacher educators must understand it (Essex et al., 2021). They can make inclusive learning environments where the needs of all students are met. Even so, there may still be disagreements about inclusive education, highlighting the need for ongoing debate and information sharing to advance its acceptance and efficiency in classrooms. Lack of knowledge or unawareness of the various learning needs and learning styles of students can result in a one-size-fits-all teaching strategy (Mensah, 2023). This strict approach might not be able to adequately meet the needs of each individual learner, potentially leaving some students behind and impeding their academic progress.

Preservice teachers might find it challenging to modify their teaching strategies to accommodate a variety of student learning styles in the same classroom. These educators may lack the necessary training and exposure to inclusive teaching strategies, making it difficult for them to manage and support a variety of students, which can be frustrating and difficult to maintain an inclusive learning environment (Boadu, 2020). She contended that, the lack of a

supportive institutional culture and insufficient opportunities for professional growth can make the issue worse and Preservice teachers may be reluctant to use these strategies in their classrooms if they do not receive adequate training on the knowledge of inclusive education and application of inclusive practices. It is necessary to note that inclusive education training should be given top priority in teacher education programs in order to overcome these obstacles and encourage successful implementation. Preservice teachers can gain a deeper understanding and appreciation of inclusive practices if they are given the necessary knowledge, abilities and attitudes (Friko, 2022). According to Sanagi (2016), preservice teachers' misconceptions about inclusive education can have a big impact on how well students with special needs learn. According to the study, if these misconceptions are not cleared up and corrected, it might lead to the creation of an environment that is exclusive rather than inclusive for students with different learning needs. Sanagi (2016), points out that, preservice teachers who don't have a solid understanding of inclusive education may unintentionally use antiquated teaching techniques that don't work well for accommodating a range of learners. For instance, they might approach instruction with a one-size-fits-all mentality and disregard the unique needs of students with disabilities. Because of this, they might find it difficult to keep up with the curriculum and feel left out of the learning process. Misunderstandings about inclusive education may cause people to view students with special needs negatively. Unintentionally, preservice teachers may have low expectations for these students, assuming they won't be successful academically. Students with special needs may suffer from low self-esteem and low motivation as a result of this attitude, which could impede their progress and overall educational experience. Sanagi contended that, insufficient training in inclusive education may lead to ignorance of the various support networks and tools available for students with disabilities. These students may encounter obstacles to their learning and development if they lack access to suitable accommodations, further marginalizing them within the educational system.

Duhan and Devarakonda (2018) made a significant claim about how inclusive education is perceived, contending that teachers' levels of teaching maturity determine how well they understand this concept. They believe that preservice teachers typically have a limited understanding of inclusive education. However, they contend that thorough instruction and exposure to real-world situations can greatly enhance preservice teachers' knowledge of inclusive education.

The study emphasizes the value of teaching maturity, which is the degree of experience and professional development a teacher has attained. Preservice educators are those who have finished their formal education but have not yet gained real-world classroom teaching experience. Their understanding of complex educational concepts like inclusive education may be more theoretical than practical due to their limited exposure to real-world teaching scenarios.

Ofori-Manteaw et al. (2022) stipulates that, a pedagogical strategy known as inclusive education places an emphasis on giving students with different abilities, backgrounds, and needs equal opportunities and support so they can take part in regular classroom activities alongside their peers. Effective understanding and implementation of inclusive education can be difficult, particularly for newly certified teachers and this is where extensive training and exposure to real-world situations are useful. Preservice teachers can be given the theoretical knowledge and practical strategies they need to foster an inclusive learning environment through intensive training programs designed specifically for inclusive education (Wanjiru, 2017). He stipulated that, workshops, seminars and courses covering topics like individualized support plans, differentiated instruction and creating a welcoming classroom environment may be included in these programs and preservice teachers can develop a deeper understanding of the ideas behind and advantages of inclusive education by taking part in such training. In inclusive classrooms, preservice teachers with adequate knowledge on inclusive education can

observe and help out in order to gain practical experience known as experiential exposure and also observe the strategies in action and comprehend the difficulties and benefits of inclusive teaching by spending time in classrooms where inclusive education is successfully implemented.

It is widely recommended that teacher education institutions implement and integrate comprehensive courses and programs focused on inclusive education in order to adequately prepare preservice teachers for teaching. The main goal of these programs should be to change the prevalent mindset away from the traditional charitable or medical models of student support in favor of a more advanced and all-encompassing social model of inclusion, as stressed by Gesser and Martins (2019). They contended that, it is important to offer courses and programs on inclusive education because they give preservice teachers the knowledge, abilities and attitudes they need to meet the diverse needs of students in a modern classroom and with the emphasis that all students, regardless of their abilities or disabilities, should have equitable access to high-quality education and meaningful participation in the learning process, these initiatives would promote a thorough understanding of the principles and practices of inclusion.

In summary, the literature review emphasizes how important it is to give preservice teachers the knowledge and abilities needed for inclusive education, as well as how urgent it is to do so. It clarifies a number of important issues, such as the body of literature, contextual factors, methodological approaches, and various gaps that need to be filled in order to adequately prepare preservice teachers for inclusive practices.

2.4 Selection and use of appropriate Teaching and Learning Resources

The educational experiences of students are significantly shaped by their teachers. The choice and application of appropriate teaching and learning resources is an important component of effective teaching. These resources cover a broad range of subjects and include, among other things, textbooks, multimedia, educational technology, and hands-on materials. This review of

the literature aims to investigate the research and studies that have already been done on teachers' preparation for choosing and utilizing appropriate teaching and learning resources.

The review will emphasize the value of adequate planning in enhancing instructional strategies and fostering students' academic success. To choose resources that effectively support the desired outcomes, teachers must have a thorough understanding of the curriculum and learning objectives (Hemler, 2020). The constructivist-based teaching strategy created by Calik et al. (2010) is appropriate because it makes use of simple, affordable teaching and learning resources. The teaching and learning materials in their model allowed students to learn about the dissolution of a gas into a liquid. Students work together and share ideas in a constructivist learning environment through group projects (Adu-Gyamfi et al., 2020).

Students in elementary schools use resources to be engaged and expand their knowledge (Boakye & Ampiah, 2017; Buljeta et al., 2023), so they must be exposed to interesting teaching and learning resources (Binsaleh & Binsaleh, 2020; Education & Education, 2005). Andresen (2015) asserts that early exposure to the use of teaching and learning resources (such as digital devices) by students promotes greater adaptability in the construction of knowledge. Differentiated instruction, in which different goals are created for different students, requires flexibility, which preservice teachers must be trained in and understand. Individualized learning, which is described as a 1:1 initiative with regard to one student and a collection of learning resources (Andresen, 2015), leads to improved self-directed knowledge construction.

Teaching and learning resources are therefore very helpful to programs for teacher education in terms of delivery flexibility (Diezmann & Watters, 2002). For instance, technology increases students' capacity for flexibility, dependability, and accessibility so they can interpret ideas whenever and wherever they want (Jing et al., 2017). Improved technology has changed how students interact with others to understand concepts, and ICT-based learning is one of the 21st century competencies expected of students (Rahmat et al., 2020). However, according to

Shuhidan et al. (2021), many students find it challenging to adjust to online learning. Online learning is an improbable strategy for Ghanaian elementary schools due to the lack of computers and internet access in those establishments, despite the fact that preservice teachers in colleges of education are prepared to use the internet for learning. In the constructivism community, Har (2013) identified scaffolding as a popular teaching and learning strategy. According to Rahmat et al. (2020), scaffolding is a method of teaching that supports student learning. Teaching resources and materials are crucial components that must be included in lesson plans, so preservice teachers must have the necessary skills to adapt suitable Teaching and Learning Resources for an inclusive class (Olivia, 2020). Teaching materials can be used to enhance student learning, maintain interest, diversify the curriculum, encourage inclusion, and show connections between different subject areas (Friko, 2022).

Teachers need to be provided with the necessary training on how to adapt and use these in order to make the classroom engaging and inclusive (Mensah, 2023). He argued that, rather than being determined by the use of a significant number of modern teaching and learning resources, a teacher's success in using appropriate teaching and learning resources depends on how well they have been trained to inspire students to acquire knowledge, develop a variety of skills, and accept and adopt positive values and attitudes. He also posited that, to successfully complete the tasks of teaching and learning, it is crucial that preservice teachers are trained to effectively weigh the advantages and disadvantages of educational resources. By having this skill, they can make educated decisions when choosing teaching and learning resources, maximizing their use in the classroom and improving the overall educational experience for their students (Yirenkyi, 2020). He asserts that the importance of instructional resources in general and print materials in particular for teaching and learning cannot be overstated. Teachers benefit from them because they not only make teaching easier, but also give them ideas for how to approach their own projects.

The main success of lesson planning and curriculum development is strongly correlated with the capacity to evaluate and choose appropriate teaching and learning resources (Yirenkyi, 2020). He argued that preservice teachers who have this skill can develop lessons that are well-structured and interesting to students and help them understand what they are learning. They can also recognize which resources best support their teaching objectives and which may impede student learning, making for a more efficient and effective educational experience. He concurred that being able to weigh the benefits and drawbacks of educational resources encourages future teachers to keep up with new developments in the field of education. In addition, as technology advances constantly, new and better resources are regularly made available. It will be easier for preservice teachers who are skilled at evaluating these resources to incorporate cutting-edge tools into their teaching methods, enhancing their classrooms with dynamic and interactive learning experiences (Takai, 2020).

According to Lopez et al. (2020), a teaching and learning resource must be appropriate for its intended audience, target audience, and of course the context in which it will be used in order to be truly helpful. The first task for a teacher is to select from the wide range of resources on the market those that best support his goals. How does he plan to accomplish this? It will take a very long time for the teacher to read through everything in one subject. He's compelled to make use of text previewing. When choosing what to read, it's important to look for helpful information books and evaluate potential resources. According to Buljeta et al. (2022), the purpose of using teaching and learning materials in the classroom is to assist the teacher in delivering educational content and achieving educational objectives, as well as help the students learn and develop their own special skills and values. As a result, examples of what they have in common include the following:

1. Student motivation
2. Developing motivation

3. Evoking prior knowledge
4. Promoting the process of comprehending, decoding, organizing, and synthesizing the educational content, as well as logical reasoning, communication, and interaction
5. assisting in the acquisition of values by pupils, the development of various skills, and the retention of beneficial knowledge, abilities and attitudes

The use of interactive teaching and learning resources, such as multimedia presentations, educational videos, simulations, hands-on activities, and interactive online platforms, is one of the most effective ways to increase student engagement (Ofori, 2020). He posits that, using such materials in their lessons, preservice teachers create an atmosphere that encourages curiosity and excitement, grabbing the attention of the students and inspiring them to actively participate in class activities. These accommodates various learning approaches and preferences when students are exposed to a variety of teaching and learning resources. Not all students learn in the same way; some might be auditory or kinesthetic learners, while others are visual learners. Preservice teachers should be prepared to meet these various learning needs by offering a variety of resources, and this will give each student the chance to interact with the subject matter in a way that speaks to them personally and their training program should be carefully planned to address various issues relating to teaching and learning materials (Kester, 2021).

When students have the opportunity to interact with the material, whether through group discussions, practical experiments, or multimedia activities, they are more likely to take an active role in their learning journey (Mensah, 2023). Interactive teaching and learning resources encourage active participation and collaboration among students. He pointed out that when preservice teachers successfully integrate teaching and learning resources, it enriches the overall learning experience, making it more enjoyable and memorable for students. In spite of this, active engagement also fosters critical thinking, problem-solving skills and the capacity

to apply knowledge to real-world situations. Students may find learning through interactive and engaging materials to be enjoyable and rewarding, which may result in a positive attitude toward learning and improved academic performance. In addition, he argued that using a variety of teaching and learning resources fosters a more welcoming and equitable learning environment by allowing students with various backgrounds and skill levels to have a range of strengths and weaknesses. All students can shine and demonstrate their understanding in different ways when preservice teachers are prepared to use a variety of resources. This fosters a sense of community and respect for each student's individual talents.

According to Lyons (2012), it is essential that preservice teachers receive in-depth training in the proper selection and application of teaching and learning materials, particularly with an emphasis on promoting inclusive education. The goal of inclusive education is to give all students, including those with different learning needs and abilities, equal opportunities so that they can participate fully in the learning process and reach their full potential. To accomplish this, preservice teachers must be given the knowledge and abilities required to build a welcoming and inclusive learning environment. Lyon asserts that, a classroom environment that values diversity and encourages inclusivity can be fostered by preservice teacher who are adequately prepared on the proper selection of teaching and learning materials. Preservice teachers must be prepared in order to select materials that can accommodate these variations, which involves first understanding the various learning preferences, skills and styles of the students (Kester, 2021). He explained that, understanding instructional strategies and resources that can effectively engage all learners is essential when choosing teaching materials that cater for different learning needs. This could involve using interactive technology, visual aids, hands-on activities, multimedia tools and resources that are adaptable to different learning modalities. He further contented that, preservice teachers should be trained to be critical in analyzing instructional materials for any potential prejudices, stereotypes, or discriminatory content that

might exclude or marginalize particular student groups. In order to promote a sense of belonging among all students, an inclusive approach necessitates making sure that the chosen materials reflect various viewpoints and backgrounds.

Ghana has only recently begun to implement inclusive education, but it has already run into a number of issues that need to be resolved. The inexperience of preservice teachers in choosing appropriate resources is a significant barrier to the effective implementation of inclusive education globally (Campos et al., 2015; Opoku, 2020).

The ability of teachers to meet the various needs of all students, including those with disabilities or special educational needs, is essential to the success of inclusive education. However, many preservice teachers in Ghana and elsewhere in the world lack the education and expertise required to recognize and make use of the right resources that can support the learning of students with different levels of ability (Altay & Ceyhan, 2020). The researchers were able to learn more about how the preservice teachers conceptualize and internalize various facets of their future roles as teachers by examining the metaphorical expressions of the participants. The metaphors used by the participants in the cognitive category revealed their logical and intellectual perceptions of the teaching profession and its constituent parts. These cognitive metaphors provide insight into the cognitive frameworks and thought processes of the preservice teachers with regard to their role as teachers, their instructional strategies, the resources they employ and the assessment of students' learning. Metaphors like "a teacher as a facilitator," "teaching as a journey," "instructional material as a bridge," and "evaluation as a compass" show how the participants used their cognitive understanding to conceptualize these educational components.

Altay and Ceyhan (2020) contend that, the affective metaphor category, on the other hand, focused on the emotional and private connections that preservice teachers have with the teaching profession and its constituent parts. The researchers were able to examine the

participants' emotions, values, and passion for becoming educators thanks to these affective metaphors. Metaphors such as "a teacher as a guiding light," "teaching as a nurturing embrace," "instructional material as a canvas of creativity," and "evaluation as a mirror of growth" show the emotional investment and aspirations of these people as they begin their journey to become teachers. The use of both cognitive and affective metaphors demonstrates how thoroughly preservice teachers understood the concepts being researched in education. Their perceptions are heavily influenced by their own experiences, emotions and values as well as rational analysis. This complex interplay of cognitive and affective components in their conceptualization of teaching leads to the conclusion that efficient teacher preparation programs should not only concentrate on transferring pedagogical knowledge but also support preservice teachers' emotional attachment to the field. In light of this, it can be said that the metaphors used by the preservice teachers to describe the concepts of the teacher, teaching, instructional material and evaluation reflect how they view and feel about these educational concepts, each of which was shaped by their educational experiences as students (Boekaerts, 2003). In order to understand how preservice teachers' educational experiences have shaped the current educational system, key elements of the teaching profession like teacher, teaching, instructional material and evaluation, it can be suggested that teacher educators pay close attention to their students' metaphors.

Up until the 1960s, tools and equipment were viewed as supporting educational tools, and their use was left up to the individual preferences and interests of teachers (Alkan & Arslan, 2019). Today, however, they are beginning to be recognized as an essential component of learning-teaching systems. When preservice teachers are trained to understand appropriate use of teaching materials thoroughly as well as their features, planning, learning principles and developmental psychology, it would enable them to essentially to use them at various and sufficient levels (Kester, 2021). Knowing which materials can be used for which teaching

objectives is particularly important, as it is well known, there are some elements that influence the selection of instructional materials. The main ones are teaching goals, teaching techniques to be used, student characteristics, environment characteristics, teacher attitudes, time and cost. Teachers and those in need of other teaching and learning resources can easily find the tools and resources they need on the market to the evolving and changing conditions (McCall et al., 2014). He further argued that, achieving it can occasionally be challenging, time-consuming and expensive. In these situations, preservice teachers need the necessary training on the need for specific tools and equipment and either prepare the materials themselves or have the students prepare them.

The use of teaching and learning resources, according to Madi et al. (2020), it is important for the success of the preservice teachers' program because it creates a productive learning environment and makes it easier for students to accomplish their predetermined goals. The use of educational materials facilitates understanding and learning. It draws interest, gets people talking and gives the class life (Buldu & Armagan, 2019). It expedites learning time, solidifies learning and fosters perseverance. It facilitates learning and aids in memory.

In the educational process, instructional materials are important because they make it easier to present students with consistent information at different points in their learning process and these resources provide a plethora of advantages that go beyond a single use, allowing for repeated engagement and deepening students' understanding of the subject (Madi et al., 2020). When preservice teachers are trained on the use of learning resources, they can design engaging learning experiences that actively engage students in the learning process, pique their curiosity and encourage further exploration by incorporating a variety of instructional materials. The ability of instructional materials to present information consistently over time is one of the main merits of preservice teacher training. These resources act as trustworthy resources that students can refer to whenever necessary, unlike a single lecture or lesson that might be

forgotten or misunderstood (Kester, 2021). He posits that, by reinforcing key ideas through textbooks, multimedia presentations, online resources, or practical exercises, instructional materials help students have access to reliable and consistent information throughout their educational journey.

Learning materials have the power to inspire students' passion for knowledge. Teachers can appeal to various learning preferences and styles by utilizing a variety of interesting materials, which promotes active participation and inspires students to be interested in the subject (Mensah, 2023). This variety in presentation may inspire a desire to learn more, inspiring students to read outside of the classroom and conduct research that advances their understanding and critical-thinking abilities.

instructional materials act as a link between the classroom and the outside world and it may not be possible to physically bring certain events, facts, or assets into a classroom because they are too far away or too recent to be accessible, hence this instance demands training on its appropriate usefulness (McCall et al., 2014). However, students can virtually experience historical events, travel to far-off places, or engage with scientific phenomena that would otherwise remain abstract or out of reach through multimedia resources, virtual simulations, or digital databases. By making learning more concrete and applicable to students' daily lives, this immersive experience improves students' understanding of difficult concepts.

Teaching materials play an important role in effective learning and teaching because they give students more lasting learning, motivate learning by grabbing their attention, objectify abstract concepts, and clarify unclear concepts which leads to making lessons entertaining, teaching materials help students avoid boredom, speed up learning and improve lesson effectiveness (Kurniaman & Zufriady, 2019). Learning how to create and use teaching resources that remove elements like information sharing during teaching, information access, objectifying abstract demonstrations, communication within the classroom, motivation and creativity.

The International Society for Technology in Education stated that teachers should look for ways to enhance learning and teaching environments and support student success (Kelley & Knowles, 2016). Teachers should develop a shared vision for a technologically supported learning environment and support the idea of giving all students an equal opportunity to access educational technologies, digital content, and learning resources in order to meet their various needs. Future-focused preservice teachers must strive to learn and use technology as a learning resource, integrate it into their subject areas and pair it with the most effective pedagogical techniques (Yirenkyi, 2020). He posits that, in order to provide preservice teachers with the trainings, faculties of education should play a significant role, in particular, the course Technologies in Teaching and Materials Design, which the Council of Higher Education made mandatory as part of the teaching curriculum which started in 1998, as a priority.

According to Yaman and Karaşah (2018), if technological support could be used timely and effectively for the new generation of preservice teachers, also known as the "digital local" or "z generation," who were born into the era of technology, it would improve learning. The two words that should be highlighted in this sentence about technological support are timely and effectively. Other essential technological supports include classroom-ready digital teaching resources. The third structural dimension of an educational program or course, also known as the learning and teaching processes, is closely related to educational status, even though digital teaching materials.

Tunca and Sezen (2022) looked at the factors preservice teachers took into account when creating and utilizing materials and found that they primarily focused on the "noticeability, simplicity, and understandability" of the materials. The researchers found that most preservice teachers planned to use the teaching resources they created because they believed that doing so would facilitate student learning. In this study, Rosita et al. (2019) sought to describe the creation of Number Theory teaching resources that aid students in developing their capacity

for mathematical argumentation and representation. At the conclusion of the study, they recommended that teachers create and provide materials that are appropriate to the characteristics and social setting of the student.

Sibisi (2019) sought to explore preservice Turkish language teachers' perspectives on the "Instructional Technologies and Material Design" lesson and challenges they encountered. The vast majority of preservice teachers who responded to the study's findings said that supplies needed to prepare materials should be reasonably priced and that they should be durable and attract students' attention. In order to assess how the Instructional Technologies and Material Design (ITMD) course affected preservice mathematics teachers' attitudes and opinions regarding the material preparation process, the academic performance of learners in the final exams would tell (Cheung & Man Wong, 2011). The use of instructional materials by preservice teachers has risen in prominence as a result of the increased importance given to strategies that encourage student activity in educational programs. According to Thomas et al. (2010), effective learning environments, material development expertise and the use of appropriate materials are all expected of teachers.

When taking into account changing teaching conditions and the significance of material design and application processes that will aid preservice teachers in creating effective teaching environments, teachers will better prepare themselves and will make a great teacher (Sibisi, 2019). By facilitating a deeper understanding of the material, the use of materials by preservice teachers in the lessons helps them learn it more permanently and meaningfully (Addai, 2022). Additionally, the use of materials increases the effectiveness of the lessons by making them enjoyable for the students and assisting in the teaching of new subjects without boring them (Kazu & Yeşilyurt, 2008).

In summary, this in-depth review of the literature explored how preservice teachers are prepared for the essential task of choosing and effectively utilizing the right teaching and

learning resources in their instructional strategies. To gain a deeper understanding of this important topic, the study synthesized a wide range of existing research works, academic articles, and pertinent publications. This review of the literature not only highlighted the importance of preservice teachers' preparation on the selection and use of appropriate teaching and learning resources, but it also gave insightful information on potential strategies and best practices to help them become more proficient in this crucial area of effective teaching. The results of this study would add to the ongoing discussion about teacher preparation and the improvement of preservice training on appropriate teaching and learning resources to better prepare teachers for their future classrooms.

2.5 Strategies of teaching in an inclusive classroom

Inclusive education aims to provide equal opportunities and quality education for students with diverse need. For preservice teachers to effectively teach in inclusive classrooms, it is imperative that they receive adequate preparation in teaching strategies that cater for the needs of all learners. This literature review explores the key aspects of preservice teachers' preparation on teaching strategies in an inclusive classroom, focusing on research studies and scholarly articles.

There is a growing need for preservice teachers to be prepared on how to use different teaching strategies in inclusive classrooms as they are at the forefront of preparing future teachers to work with diverse learners (Boadu, 2020). She went on to argue that differentiated instruction is one of the most popular teaching techniques in inclusive classrooms. In terms of learning preferences, skill levels, and interests, preservice teachers must be prepared to recognize and accommodate student differences (Beard, 2017). According to research, preservice teachers who are given differentiation instruction are more likely to use these techniques in the classroom (Beard, 2017).

According to Lee (2023), effective teaching and learning would result from the use of universal design for learning (UDL), which emphasizes the use of various forms of representation, expression, and engagement to meet the needs of all learners. Preservice teachers who receive UDL training display a favorable attitude toward inclusive education and successfully employ a variety of teaching techniques in the classroom to assist students (Lee & Dahinten, 2021). In order to facilitate teaching and learning in inclusive classrooms, Mensah (2023) identified collaborative teaching strategies and inquiry-based learning as useful methods for preservice teachers to learn. He further argued that in order to support students' learning and development, preservice teachers must be ready to collaborate with other teachers. He went on to say that effective collaboration necessitates communication, shared responsibility, and a commitment to creating common goals for student success. This method emphasizes the value of inquiry and exploration in the learning process and supports student-centered learning. In order to ensure that all students succeed, co-teaching encourages a cooperative approach to instruction and highlights the significance of teachers cooperating (Henrickson, 2020). The likelihood that preservice teachers will employ inquiry-based learning in their own instruction is higher when they have received training in it (Vesely-Maillefer, 2015). In line with this idea, a teacher is expected to take on a number of roles in the classroom, such as controller, organizer, assessor, prompter, and participant (Yirenkyi, 2020).

The ability to plan, direct and facilitate appropriate interactions that take into account the various needs and abilities of learners is required for preservice mainstream education teachers to be prepared to teach students with special education needs in inclusive classrooms (Berry et al., 2011). He goes on to say that pre-service training programs ought to be prepared to teach fundamental information about disabilities, diagnosis, management, rehabilitation and the necessary teaching strategies that can be created to meet different student learning needs. To successfully implement inclusive teaching methods, teachers need to have the necessary

knowledge and skills. A barrier to inclusion may be a lack of understanding about inclusive education, but modifications to the curriculum, the learning environment and the methods of instruction are all possible (Sharma et al., 2015). They went on to say that teaching and adaptation strategies can be applied most successfully when teachers are aware of thorough teaching strategies and implementation procedures at the classroom level. Therefore, in order to ensure that they are fully prepared to use inclusive education, teachers must be willing to adapt their teaching methods to meet the needs of special learners (Baguisa & Ang-Manaig, 2019). Teachers must also use a variety of strategies, such as group projects, extracurricular activities, and collaborative learning, to foster good interpersonal relationships among these students (Sikanku, 2018). Differentiated learning is a method of teaching that takes into account the diverse learning needs, interests, and skills of students in a classroom. It also takes into account the fact that each student has a unique background, prior knowledge, learning preferences, and style of learning.

According to Niroula (2020), teachers in the general education system face a number of challenges when teaching students with special needs in a regular classroom, including a lack of adequate teaching and learning materials, large class sizes, and a lack of experience using strategies to manage and deal with severe disabilities. She explained that when working with students who have exceptional needs in the regular classroom, teachers find it challenging to employ the proper strategies. These challenges include involving all students in all activities and working with students who have severe and profound disabilities. Furthermore, they argued that it is unjustifiable for teachers to lack the knowledge and skills necessary to implement effective learning strategies for students with special educational needs. Learning how to teach entails more than simply placing a student in a regular classroom; it also involves minute details like how students with special needs interact with their peers and how the classroom is organized for effective instruction, they added. Utilizing the most effective

teaching techniques or strategies for students has proven to be very beneficial for head teachers and their staff in practice. Some techniques are influenced by the learning and working environment, which occasionally includes the duties, personalities, skills and abilities of academic staff as well as the barriers to social inclusion for students with special educational needs (Moriña, 2019). According to Rabi et al. (2018), some general education teachers struggle to teach academics and social skills to students with special educational needs in inclusive classrooms. This is because of inadequate training on teaching strategies and methods. Bennett and McWhorter (2020) claims in a study that inclusive education is a type of educational program provided to both regular students and students with special needs in order to provide the best instruction and encourage inclusion in the classroom setting. Australian special education teachers are described in a set of comprehensive professional standards recently created by Dally et al. (2019). These standards cover the following topics: student knowledge, content knowledge, planning and implementing lesson plans, learning centers, comments and reports, involvement with others, self-reliance, professional education and faculty of teaching and professional skills.

Before being placed in classrooms, trainee teachers must be trained about special education policies, inclusive education systems, the identification of students with special needs and instructional techniques. Even if teachers possess the necessary knowledge, it is unlikely that they will use it if they do not want to or do not feel it is their duty to include all learners, or do not feel that their actions will result in the success of all students. Killoran et al. (2014) studies demonstrates that teacher training has been effective in modifying preservice teachers' perceptions of inclusive curriculum and in providing a solid knowledge base for future use in the classroom. They further argued that, the teacher should also establish additional, appropriate expectations for the students, such as by developing extra assessments or formulating expectations that are suitable for the students' abilities; the teacher must be able to

make decisions about how to modify the students' activities and how to design multi-level classroom activities for which every student is accountable; this method of instruction can be used at the college level in addition to the primary or secondary levels. As a result, instruction will be activity-based rather than seat-based. They posit that, it is important to develop the capacity to value all of the skills that students bring to the classroom, not just their academic abilities. By doing this, teachers will demonstrate that all skills, even those that are not immediately relevant to academics are valued in their classrooms. Teachers must be trained to work to stop the perception that all students learn when some students are taken out of class for special work in order to guarantee the success of all students every day (Kikas et al., 2018). They contended that, teachers of general education will benefit from additional abilities that will aid them in inclusive settings. knowing that they are responsible for every student in the class. This includes the capacity to modify and rewrite goals to correspond to the needs of the child. Together, parents and special education teachers can discover the skills a child needs and develop the most effective teaching strategies (Hattie, 2015).

While many teachers struggle with teaching, they agree that student inclusion, at least to some extent, has positive effects on education and society (Hattie, 2015). Special education teachers who have strong beliefs about special education now face the new challenges of instructing students with disabilities in the classroom as society shifts from a segregated to an inclusive environment (Eshun, 2019). These teachers faced difficulties due to their own beliefs and expectations, other people's attitudes, and systemic barriers in the learning process despite their special education training. As well as increasing the abilities of teachers and Professional Learning Specialists (PLCs) in teaching opportunities, there will be implications for professional development and teacher training for inclusive programs (Somma & Bennett, 2020).

An essential addition to effective training is relevant professional experience on teaching methods (Hariyanto et al., 2021). Teachers gain a deeper understanding of inclusive practices and how to use them effectively when they have experience working in diverse classrooms and have encountered a variety of learning profiles (Hariyanto et al., 2021). They argued that, experience enables teachers to hone their strategies, foresee difficulties and make the most of their knowledge to create a more encouraging and nurturing learning environment for all kids.

Kosi (2022) argued that, the benefits of early childhood inclusion go beyond the classroom but learners' social skills, empathy and understanding can all flourish in inclusive classrooms when the teacher has an adequate knowledge on teaching strategies. He contended that, learners who are included grow up with a sense of acceptance, appreciation and respect for diversity, which eventually aids in the development of a more accepting and compassionate society.

Stronge (2018) posits that, for preservice teachers to succeed in the classroom, effective teaching techniques must be taught to them and when teachers are properly prepared, they have the pedagogical approaches, knowledge and skills they need to design engaging and lasting learning experiences for their students. He posits that, several important factors should be taken into account during this preparation:

- Pedagogical Content Knowledge: Preservice teachers should gain a thorough understanding of the material they will teach and how to communicate it effectively. This involves not only in-depth subject knowledge but also an awareness of common student misconceptions, alternative representations, and instructional strategies (Shulman, 1986; König et al., 2022).
- Knowledge on Inclusive Education: Understanding and practicing inclusive teaching is vital. Preservice teachers must be trained to create welcoming and supportive learning environments for students with disabilities, English language learners, and those from diverse cultural backgrounds (Florian & Black-Hawkins, 2018; Sharma et al., 2022).

- Differentiation and Personalization: To meet diverse learning needs and preferences, preservice teachers should be trained in differentiation and personalization. Tailoring instruction helps learners engage with content in ways that suit their strengths and interests (Tomlinson, 2017; Deunk et al., 2018)
- Classroom management: Effective classroom management is essential for maintaining a productive learning environment. Teacher preparation should include training in setting clear expectations, reinforcing positive behavior, and conflict resolution (Emmer & Evertson, 2017; Simonsen et al., 2020).
- Assessment: Preservice teachers should become proficient in various assessment methods and in using data to guide instruction. Formative assessments, in particular, help monitor progress and inform teaching adjustments (Heritage, 2021; Popham, 2018).
- Integration of technology: The use of digital tools can enrich teaching and learning. Preservice teachers must be trained to integrate technology in pedagogically sound ways to enhance student engagement and outcomes (Trust et al., 2020; Mishra & Koehler, 2006—TPACK framework).
- Cultural Competence: Training in cultural competence enables teachers to appreciate and integrate diverse perspectives into instruction, and to challenge stereotypes and biases (Gay, 2018; Ladson-Billings, 2021).
- Collaborative skills: Teachers must collaborate with colleagues, parents, and stakeholders. Preparation programs should emphasize teamwork, communication, and collaboration to build effective partnerships (Friend & Cook, 2022; Ronfeldt et al., 2015).

- Reflective Practice: Reflective practice is key to professional growth. Encouraging self-evaluation and continuous improvement helps preservice teachers refine their practice over time (Schön, 1983; Larrivee, 2020).
- Real Classroom Experience: Hands-on experience through internships or student teaching is essential. Guided by experienced mentors, preservice teachers can apply theory to practice in authentic settings (Darling-Hammond et al., 2020; Zeichner, 2018).
- Understanding Educational theories: Grounding teacher preparation in sound educational theory informs practice. Knowledge of cognitive development, learning theories, and instructional design enhances decision-making (Eggen & Kauchak, 2021; Woolfolk Hoy, 2019).
- Emphasis on Lifelong Learning: The dynamic nature of education requires teachers to remain current. Programs should instill a commitment to professional development and continuous learning (Avalos, 2017; Darling-Hammond et al., 2020).

He postulated that, educational institutions can better prepare preservice teachers for success in the dynamic and demanding classroom environment by taking these factors into account during the preparation process. Teachers who have received adequate training are more likely to have a positive effect on the academic progress of their pupils and to advance the educational system as a whole.

It is important for preservice to understand that there is no one teaching method that is always the best, instead, factors like the subject matter, the students' developmental stage and the learning objectives must be taken into consideration when selecting the best teaching strategy (Kester, 2021). In order to meet the diverse needs of their students, an effective teacher will take a flexible approach and incorporate different teaching philosophies.

The role of teachers in higher education is becoming more dynamic and multifaceted in the quickly evolving educational landscape of today raining programs for preservice teachers and

it has become essential pillars of professional development across the globe as a result of the realization of the critical role that well-equipped educators play in determining the future of students and academia (Gibbs et al., 2018). They contended that, these extensive initiatives seek to accomplish two crucial goals: exposing teachers to cutting-edge teaching strategies and expanding their repertoire of instructional strategies, ultimately fostering a more efficient and engaging educational experience for students. They contended that, the dynamic nature of education necessitates ongoing research into novel teaching strategies and though they are tried and true, traditional methods may not always be compatible with the various needs and learning preferences of today's students. Therefore, these training initiatives must aim to acquaint preservice teachers with a variety of cutting-edge teaching strategies that incorporate pedagogical innovation and evidence-based practices (Fuller, 2020).

According to Tang et al. (2020) discussion, the topic of using particular teaching strategies to encourage students' text comprehension is still vague and unclear and there is a notable gap in current educational research because it does not pay enough attention to taking individual differences in teachers' teaching styles into account. They posit that, one of the most important skills for a student's overall academic success and cognitive development is reading comprehension of texts; despite its significance, there doesn't seem to be agreement on the best teaching methods for developing this skill. By highlighting the uncertainty surrounding the strategies used by teachers to improve students' text comprehension, Tang et al. (2020)'s work sheds light on this issue. To identify and analyze the various teaching techniques preservice teachers should be trained and employ to help students understand texts, more research is needed (Wijaya, 2019). He argued that, these strategies could include a variety of teaching techniques, including guided discussions, close reading, questioning techniques, graphic organizers, and group projects, among others. He contended that, the importance of examining individual differences in teaching strategies among teachers cannot be underrated and it would

enable each teacher brings their individual strengths, preferences and teaching styles to the classroom and these elements can have a big impact on how they go about teaching text comprehension. Learning environments that are more individualized and effective can be developed to meet the unique needs of students by recognizing and respecting these individual differences (Sutton et al., 2023).

The distinctive combination of strategies used by each teacher results in their own teaching approach and style, adding to the educational landscape's diversity and richness (Tang et al., 2020). Rasku et al. (2012) investigated the effects of these teaching strategy profiles on engagement, learning outcomes and general classroom dynamics. They posit that, teachers can identify effective teaching strategies and provide guidance on how teachers can modify their methods to meet the various needs of their students by looking at the combination of strategies used by teachers.

Since students in the second grade do not require as much visualization, teachers may use other strategies, such as encouraging students to ask appropriate questions of each other to solve related problems (Eristi & Akdeniz, 2012). In the first grade, teachers may use visual techniques as appropriate to the subject of the lesson and dramatize the situation. According to Cain (2015) research, preservice teachers' background knowledge on teaching strategies and inference-making are becoming increasingly essential for understanding texts. Similar to this, Pearson et al. (2012) work may have emphasized the importance of linguistic operations like decoding and word recognition on a fundamental level. They contended that, an interest of reading and a commitment to lifelong learning is a teaching strategy that can be fostered by incorporating these discoveries into classroom teaching by improving students' general reading comprehension and critical thinking skills. Because different subject areas and connections between ideas may need to be accommodated, teaching strategies should be contextualized (and, if necessary, extended to other contexts) (Hattie, 2015). In order to help teachers better

understand their own activities, information on teacher profiles, which would include a variety of conceptions of learning and teaching, may be both interesting and useful.

The most common method of teaching is whole-class instruction, in which the teacher speaks to the whole class at once (Hattie, 2015). This approach frequently includes teacher-led discussions and lectures, also known as "teacher-talk." The main emphasis is on promoting grammar rules and disseminating factual information, frequently through tedious drills and exercises. This method can be well practiced if preservice teachers are given the necessary training for the implementation of inclusive education. According to studies by Uibu et al. (2010), this traditional teaching method has been predominated. Their studies demonstrate how commonplace these strategies are in the Estonian educational system and the value of more integrated teaching strategies has, however, begun to be recognized by educators in recent years, signaling a change that must be noted. Even though these integrated strategies have not been used as frequently as the conventional approaches, there is growing recognition of their potential advantages. This change is particularly noticeable in first-grade classrooms, where teachers are increasingly implementing strategies that give students more freedom in selecting the books they read and the topics they discuss (McLeskey et al., 2017). Kikas et al. (2018) identified this student-centered approach as one that promotes active engagement and a love of learning.

According to Kikas et al. (2018), teachers frequently employ strategies that give their first-graders more freedom to decide what to read and discuss. Only after students have mastered reading skills and improved their text comprehension can this type of instruction take place. It is not a new idea; it has been well-established in the literature for quite some time that teaching preservice teachers to generalize techniques across various time periods and settings is essential (Friko, 2022; Takai, 2020).

Scheeler (2008) conducted a recent review of the literature on programming for generalization with preservice teacher candidates, but no empirical studies were discovered that could shed light on the precise methods for delivering this training. She contends that, due to a lack of research in the field, it is unclear why preservice teachers might find it difficult to maintain newly learned techniques and use them successfully in their own classrooms, and this problem might be caused, for example, by preservice teachers not receiving enough training in generalization techniques during their preparation. It may be more difficult for them to successfully apply these techniques in their future teaching endeavors if they are not explicitly taught how to adapt and apply their skills in a variety of situations (Sharma, 2018). It's possible that the idea of "programming for generalization" is the crucial component in teacher preparation (Addai, 2022). They contended that, educational institutions can more effectively prepare teachers to succeed in various teaching environments by integrating systematic training that encourages preservice teachers to transfer and adapt their acquired knowledge across various contexts.

In summary, giving preservice teachers the needed training on the various teaching strategies they need to support the diverse needs of all students in the classroom is part of preparing them for inclusive education. Educational institutions strive to produce teachers who can create inclusive learning environments where all students can succeed academically and socially by providing preservice teachers with a thorough understanding of inclusive education and effective teaching strategies.

2.6 Assessment Practices in Inclusive classroom

This review of the literature aims to examine the current research on preservice teachers' preparation for assessment practices in inclusive classrooms. The importance of addressing the various needs of all students, including those with disabilities, within the context of general

education is emphasized by inclusive education. In inclusive classrooms, good assessment practices are crucial for fostering students' learning and development.

An assessment is any process used to gauge each student's level of understanding and the caliber of their learning (Salisbury et al., 2013). They argued that evaluations can reveal anything that some students might need to be taught again, changed, or practiced, and that assessments can be used to determine the effectiveness of a given teaching and learning period. They further contended that, traditional methods of assessment, like exams, tests and essays, which are commonly used in classrooms, have proven to be inefficient at capturing the range of learning outcomes desired from courses. They stated some important factors to consider when training preservice teachers for assessment procedures:

- Understanding Inclusion: Training for preservice teachers should focus on helping them gain a firm grasp of inclusive education and its guiding principles. They ought to be aware of the significance of fostering an inclusive learning environment in the classroom where pupils with various skills, backgrounds, and learning preferences can succeed (Florian & Black-Hawkins, 2011; Sharma et al., 2022).
- Assessment for Learning: Make sure to emphasize the idea of using assessment as a tool to inform instruction and support student growth. Teachers-in-training should comprehend how assessments can be used to pinpoint students' strengths, needs, and preferred methods of learning as well as how this knowledge can influence instructional choices (Heritage, 2021; Wiliam, 2018).
- Differentiated Assessment: To meet the various needs of students, preservice teachers should receive training on strategies for differentiating assessments. Providing different assessment formats, such as oral, written and visual, allowing for flexible deadlines, and using alternative techniques, such as portfolios and projects, to evaluate student

learning are a few examples of how to do this (Tomlinson, 2017; Deunk et al., 2018; Roy et al., 2023).

- Individualized Education Plans (IEPs) and Accommodations: Preservice teachers should be familiar with the procedure for creating and implementing IEPs for students with disabilities. To ensure fair opportunities for all students, they should know how to work with specialists in special education and implement accommodations and modifications during assessments (Friend & Cook, 2022; Morningstar et al., 2022).
- Real-world contexts and tasks must be included in authentic assessment methods, which preservice teachers must be introduced to. For students with a variety of learning needs, authentic assessments can be particularly helpful in assessing students' understanding and skills in meaningful ways (Gulikers et al., 2022; Darling-Hammond et al., 2020).
- Summative and Formative Assessment: Preservice teachers should be aware of how summative assessments evaluate student learning at the conclusion of a unit or course while formative assessments can be used to monitor student progress and provide ongoing feedback. Teachers in training should receive instruction on how to choose the best assessment methods for various objectives (Brookhart, 2022; Andrade & Heritage, 2018).
- Culturally Responsive Assessment (CRA): This emphasizes the significance of CRA procedures. Encourage future educators to take into account the cultural experiences, values, and backgrounds of their students when creating and analyzing assessments. Insist on the necessity of impartial assessment procedures free from prejudice or stereotypes based on a person's culture (Gay, 2018; Hammond, 2015; Zaretsky et al., 2022).

- Collaborative Assessment: New teachers should receive instruction on how to involve students in the evaluation procedure. Encouraging a collaborative and supportive classroom environment where students actively participate in their own learning and assessment, encourage them to offer opportunities for self- and peer assessment (Boud et al., 2018; Nicol, 2020).
- Professional Development Opportunities: It is important to encourage preservice teachers to look for professional development opportunities that concentrate on inclusive classroom assessment strategies. This could entail joining organizations that offer resources and support in this field, attending workshops and conferences, or other similar activities (Avalos, 2017; Darling-Hammond et al., 2020; Zeichner, 2018).

The Curriculum Assessment Policy Statement Siwatu (2011) states that preservice teachers must be trained and developed beginning in their reception year. In order to administer assessments effectively, preservice teachers must be aware of the various stages of handwriting, letter formation, physical factors that affect handwriting, different writing styles, and the purpose of perceptual development (writing readiness) (Nkomo & Charamba, 2022). Therefore, evaluation of handwriting should be a part of programs for new teachers. Additionally, those who have completed the four-year Bachelor of Education program should be qualified to evaluate students' handwriting.

For preservice teachers to successfully assess learners, it is necessary that they are trained to have good handwriting skills and pedagogical knowledge of handwriting education (Arslan et al., 2014). Inclusion is a crucial aspect of assessment design because diverse student populations are present in the majority of contemporary educational institutions (Anderson, 2019). This must be taken into account in fair assessments. Assessment is significant and essential that takes into account questions like: What is the intended assessment, why is it being conducted, and for whom? Prioritizing the choice of assessment method whether formative or

summative, norm-referenced or criterion-referenced, self-assessment or peer assessment should come before deciding on a norm (Johnson, 2015). Every model of the teaching-learning process requires teachers to base their decisions about how to deliver instruction, grade students, and produce reports on some understanding of how well students are doing in relation to the learning goals they were set (Anderson, 2019). The process by which inferences are drawn about the knowledge, skills, attitudes, and behaviors possessed by each student in a class can be seen as being influenced by the difficulty of classroom assessment, the variety and frequency of teachers' decisions, and the variety of student learning outcomes and behaviors that teachers take into consideration when making decisions and associating the assessment purposes with their chosen approaches and procedures (Shulman et al., 2018).

According to Abdulai and Carvajal (2023), it is crucial for preservice teachers to be trained in assessment procedures for inclusive education in order to support students' learning objectives and advance their own professional development. They argued that in order for assessment to be successful, inclusive, and practical, the following factors must be taken into account:

• Acquaintance with different assessment types: preservice teachers need to learn about the different assessment techniques, including formative, summative, diagnostic, and authentic assessments (Moon, 2023; Rusznyak, 2024).

• Learning objectives should be understood by preservice teachers, and they should receive instruction on how to match assessments with learning objectives. Training programs should concentrate on what they want students to accomplish and assist them in developing skills in writing precise, quantifiable, and observable learning outcomes (Nandlal, 2024; Abdulai & Carvajal, 2023).

• Planning and designing assessments: Preservice teachers should receive the necessary instruction on how to effectively plan and design assessments. They should be knowledgeable

about methods for developing accurate and trustworthy assessments. They ought to be able to create evaluation criteria, scoring guidelines, and assessment tasks (Rusznyak, 2024; Moon, 2023).

• Feedback and grading: Preservice teachers should be aware of the value of giving students constructive criticism. They need to learn how to provide prompt, detailed, and actionable feedback that highlights strengths and areas for development. guidance on fair and consistent grading procedures is also provided (Nandlal, 2024).

• Differentiation and inclusive assessment: Preservice teachers should be trained in helping students with a variety of learning styles by teaching them how to use assessment techniques to accommodate them. To make sure that assessments are inclusive and accessible for everyone, encourage them to take into account the needs of individual students, cultural backgrounds and learning preferences (Abdulai & Carvajal, 2023; Moon, 2023).

• Data interpretation and analysis: Preservice teachers must be ready to learn how to interpret assessment data and use it to guide instructional decisions. This entails instructing them in how to spot patterns, fill in knowledge gaps and modify instructional strategies as necessary (Rusznyak, 2024; Nandlal, 2024).

• Ethical considerations: Preservice teachers ought to receive instruction on the moral dimensions of assessment, such as maintaining confidentiality, averting bias, and guaranteeing fairness. The significance of conducting assessments in a welcoming and nonthreatening environment should be emphasized (Abdulai & Carvajal, 2023; Moon, 2023).

• Professional development: It is important to encourage preservice teachers to keep improving their assessment strategies by going to workshops, conferences, or joining pertinent professional organizations. They ought to be educated on recent findings and assessment best practices. To improve their assessment abilities, preservice teachers must receive ongoing

guidance and mentoring. Giving them the chance for practical experience, feedback, and reflection will help them become more knowledgeable and confident about creating and putting into practice effective assessments (Bae et al., 2024; Nandlal, 2024).

In order to serve a diverse population of students with a range of needs when students with disabilities attend school alongside their neighborhood peers, mainstream schools must make accommodations, and assessment must be fair in order to meet the needs and standards of every learner (O'Gorman & Drudy, 2010). They went on to argue that preservice teachers should understand what it means to "learn" and "to assess," and they should be capable of revolutionizing assessment procedures in regular classrooms if they are dedicated to inclusive education. In order to encourage further learning, this would give preservice teachers the chance to come up with creative ways to ascertain what and how a child learns as well as how assessment results can be shared with students, parents, the school and funding agencies (Worrell, 2016).

A variety of assessment techniques and tools should be taught to preservice teachers in Ghanaian classrooms, as they can all be incorporated into a more thorough narrative of student learning (Bourke et al., 2018). They posit that, teachers in the classroom can facilitate and document the learning of students with high needs by using a variety of assessment tools. They added that a narrative assessment focus can be used to achieve the dual goals of assessment; determining a child's learning outcomes and figuring out how to facilitate learning, in a number of different ways. The narrative assessment method can combine different types of assessments to serve both formative and summative objectives (Nkomo & Charamba, 2022). They posit that, it can be challenging for preservice teachers to decide when and why to use a particular assessment strategy because of the two assessment goals for students with high needs: one to describe, analyze, and support learning and the other to measure learning outcomes. These goals are not necessarily at odds with one another, but they can make this decision challenging

(Smail, 2014). He argued that by providing teachers with the resources they need to gain a deeper understanding of assessment practices, better learning environments for students could be created. Teachers who have the knowledge and abilities to interpret and apply assessment data are better able to engage with and meet the needs of their students. There is the need to provide preservice teachers with extensive training in order to ensure that they have a thorough understanding of the subject matter and can administer assessments effectively in order to meet the diverse learning needs of students in inclusive classrooms (Nkomo & Charamba, 2022).

This definition of formative assessment was developed through observation of the practices that support the use of assessment to foster learning as opposed to serving as a summary of student knowledge. In order to support or promote learning, (Somma & Bennett, 2020) stipulated the following five key strategies that preservice teachers should be trained on:1. Outlining the objectives and benchmarks for academic success. 2. Creating classroom discussions and learning activities that effectively elicit evidence of student understanding.3. Offering criticism that encourages learning. 4. Having students use one another as learning resources. 5. Motivating students to take responsibility for their education. Formative assessment will be made more applicable for teachers by outlining these strategies (Wiliam & Thompson, 2017). It is important to comprehend these tactics' efficacy as well as how and when they function. Additionally, little research has been done on how teachers actually learn the five strategies and successfully combine them to create formative assessment cycles (Yaman & Karaşah, 2018).

Teachers can make sense of their students' responses by taking the time and having the pedagogical content knowledge necessary to interpret what the students are thinking (Shulman et al., 2018). Understanding assessment practices is crucial because, according to the American Educational Research Association, & American Psychological Association (Association and Association (2019), classroom assessment is one of the most important elements of both

teaching and learning for students. The council's research, however, has typically concentrated on either accommodations or just two major assessment components (assessment for learning [AFL] and assessment of learning [AOL]). The results of earlier research on assessment practices or beliefs are helpful and illuminating (ACC). The posit that, teaching and assessment can be thought of as two sides of the same coin, this suggests that for some educators there may only be a shaky connection between the two, necessitating training for preservice teachers on the differences and their proper application. Using differentiated assessments for all students in the general education classroom is essential and imperative in their findings. They further posit that; accommodations can help students demonstrate the knowledge and skills they learn and master while still measuring what an assessment is intended to measure. These considerations include providing them with additional time, computers, and any necessary assistive technology.

Tests were primarily used for diagnostic and accountability purposes and that, preservice teachers or educators need to be trained in the use of diverse assessment methods in order to implement effective inclusive assessment practices (Volante, 2010). Preservice teachers have developed and used assessments or examinations for many years. He argued that some preservice teachers are unable to understand that standardized achievement tests are used to assess students' academic progress for purposes of accountability. This required preservice teacher education institutions to be aware of the need to instruct trainees on the various test types and when to administer them. The foundation of assessment practices that are focused on accountability is the concept of assessment of learning (AOL), also known as summative assessment (Remesal, 2011). In addition, he argues that AOL is a broad concept that covers a variety of summative tests, including common end-of-unit, end-of-term, and high- and low-stakes exams. Although it is believed that the AOL focuses primarily on testing and reporting student academic performance to a variety of stakeholders, such as school administrators,

school divisions, parents, and students, some teachers fail to understand the process and are unaware of when and where to submit assessment reports as a result of their inadequate preservice education training (Brown et al., 2020). Black and Wiliam (2009), in their seminal work, advocate strongly for the idea of pre-service teacher training on assessment for learning (AFL) or formative assessment, putting emphasis on a continuous adjusted teaching and learning process that should take place between teachers and students.

Tomlinson et al. (2011) identified that, differentiated assessment entails adapting assessment practices to meet the various learning needs of students. It acknowledges that every student has particular strengths, skills, and difficulties. Differentiated assessment encourages inclusivity by offering various ways to prove understanding, such as through project-based assessments, oral presentations, or visual representations. According to Thurlow (2014), formative assessment concentrates on gathering feedback throughout the learning process to inform instruction and present chances for improvement. Formative assessment can be especially helpful in an inclusive classroom because it identifies students with a variety of needs' areas of strength and those that require more help (Peters & Romero, 2019). They added that it enables continuous instruction adjustments to meet unique learning objectives. The Universal Design for Learning (UDL) principles, according to Kennette and Wilson (2019), place a strong emphasis on offering a variety of means for representation, action, and expression, as well as engagement in assessment. UDL makes sure that students with different abilities and learning styles can demonstrate their understanding by providing a variety of assessment formats and options, such as multimedia presentations or interactive assessments (Rose & Gravel, 2012).

Teacher educators can make sure future special educators have the knowledge and abilities needed to successfully navigate the complexities of assessment by fusing theory and practice (Marfo, 2023). These standards must serve as the cornerstone upon which special education teacher educators build their curricula and teaching resources. The Community Education

Council preparation standards are being incorporated by teacher educators to ensure that their training programs are in line with internationally acclaimed best practices, which raises the standard of special education teacher preparation as a whole (Council, 2015).

The increased emphasis on assessment in primary education is partly due to this (DeLuca & Bellara, 2013; Sanagi, 2016). However, studies consistently highlight the need for teacher education to improve in order to assist student teachers in developing their assessment of students' learning and thinking, implying that they do not sufficiently support this learning (Greenberg & Walsh, 2012). Without assessment, it would be challenging for teachers to make claims about student learning that are supported by evidence (Gotwals & Songer, 2013; Sambell et al., 2019; Shepard, 2019). By emphasizing making the students' learning visible, the Japanese method of lesson study by Molina et al. (2013) has begun to address this issue in European teacher education, which in turn leads to a greater focus on assessment for learning. The Content Representation (CoRe) tool, Loughran (2012) has more recently brought students' learning in the Science discipline into focus. By completing a CoRe form, this has been done in a structured manner. In the methods section, both Lesson Study and CoRe are described in great detail. Research on Lesson Study (Boud & Soler, 2016; Irons & Elkington, 2021) and CoRe (Granberg et al., 2021) has shown that the two can add focus on assessment for learning in a variety of situations. A review of recent American and European academic publications, however, indicates that we still know very little about how Lesson Study or CoRe can assist student teachers in focusing on assessment during field practice and even less about how the two might combine. We know that many student teachers struggle to evaluate students' learning generally, but particularly in relation to their stated learning objectives during field practice (Granberg et al., 2021). This research gap is important to fill.

Building on the research and findings from Lesson Study (Boud & Soler, 2016; Irons & Elkington, 2021) and CoRe (Granberg et al., 2021), two recent studies by Juhler (2018) found

positive effects on student teachers' focus on assessment when preservice teachers used the combination of Lesson Study and CoRe during field practice. These studies, however, do not take into account the rationale for the discovered results and only offer general information about the student teachers' worries when either planning or reflecting. In a subsequent study, Juhler (2018) address this issue by describing how the teaching of a particular learning objective was organized, carried out, and rationalized, adding some of the missing information.

Classroom assessment is a useful, but frequently underutilized, lever for changing teaching methods to better support student learning (Sambell et al., 2019; Symeonidou & Mavrou, 2020). Many important classroom decisions, such as planning instruction, providing feedback, modifying lesson plans and screening and placing students, are heavily influenced by teacher assessments of student understanding and achievement (Muñoz & Porter, 2020). A study by (Kalyanpur, 2018; Worrell, 2016) posits that, students' attitudes, motivation and effort are all influenced by the way teachers are trained and approach assessment.

Formative assessment has been singled out among different assessment methods for its potential to support and improve student learning (Juhler, 2018). This procedure, which calls for specialized teacher abilities to administer, is based on the analysis of assessment data in order to provide feedback and implement actions that enhance student understanding. Formative assessment models frequently feature a cyclical process where teachers elicit or observe student thinking, draw conclusions about students' understanding, and take action based on assessment data that is directed by a particular educational goal (Furtak, 2012; McCall et al., 2014). Preservice of teachers' actions will probably lead to new noticing-inferring-acting assessment cycles (Friko, 2022). Formative assessment is a difficult practice because it calls for in-depth knowledge of the subject matter, focused attention and a wide variety of teaching techniques for effective action (Islam et al., 2016; McCall et al., 2014).

Nkomo and Charamba (2022) conducted a thorough analysis of preservice teachers' assessment procedures and the potential of narrative evaluation for students in an inclusive classroom were conducted. A survey and interviews were the two main research methods used in the study. These methodologies were selected in order to develop a comprehensive understanding of the current assessment environment and to gain insightful feedback from teachers who use learning stories as a tool for assessment. The survey was made to collect information from a wide range of teachers and capture their varied assessment methods in a range of learning environments. The researchers were able to pinpoint common patterns, advantages and disadvantages of assessment techniques used for students with very high and very high needs by gathering this data. In order to contextualize the narrative assessment approach, a foundational understanding of current practices was to be established.

Interviews with preservice teachers who have practical knowledge of narrative assessment, particularly the use of learning stories, were conducted. Learning stories are a type of assessment that involve using narratives to document a child's educational journey in order to provide a more individualized and comprehensive view of their development and accomplishments (Addai, 2022). These interviews provided more in-depth perspectives on the practical application of narrative assessment, illuminating its effectiveness for students with high and very high needs. The researcher sought to assess the potential advantages and constraints of narrative assessment for students with higher needs through a critical analysis of the data gathered. They examined how narrative assessment fits with the particular needs of these students, taking into account their physical, mental and emotional difficulties.

The assessment methods used by preservice teachers and educators would depict the learner and learning style in different and a precise model according to the theoretical models influencing the assessment strategies incorporated (Byrd & Alexander, 2020). This is because teachers who have received adequate training in appropriate assessment practices.

In conclusion, the study's literature review examined a wide range of academic books and articles that focused on educating preservice teachers about assessment practices in the context of inclusive education. The investigation covered a wide range of important themes and significant insights, illuminating the value of providing preservice teachers with the necessary training to address the various needs of students with different abilities in inclusive classrooms. However, the review also revealed critical gaps in the literature. These include a lack of context-specific research from low- and middle-income countries like Ghana, limited empirical studies on how preservice teachers apply assessment knowledge in inclusive settings, and insufficient focus on how teacher education programs prepare future teachers to align assessment with inclusive pedagogy. This study contributes to filling these gaps by examining the current state of preservice teachers' preparation in inclusive assessment practices within Ghanaian teacher education institutions. It provides new insights into local practices, identifies challenges and opportunities within training programs, and offers practical recommendations for enhancing the assessment literacy of future inclusive educators. Teacher preparation programs can thus make significant progress toward developing a generation of educators who are capable of fostering inclusive and empowering learning environments for all students by addressing these contextual and pedagogical gaps.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the profile of the methods, including the research paradigm, approach, Design, Population, Sample, techniques and procedures employed in carrying out the study. It provides a detailed description of the research design, data requirements for the study as well as the sampling procedures employed in data collection. This study sampled opinions from Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

3.1 Research Paradigm

This study employed the Positivist research paradigm to investigate preservice teachers' preparation towards the practice of inclusive education at the University of Education, Winneba. The Positivist paradigm provided a systematic and structured approach to the research process, allowing for the objective examination of quantitative data related to the preservice teachers' understanding of inclusive education, preparation on the selection of appropriate teaching and learning resources, preparation on teaching strategies and preparation on assessment practices. This was essential in ensuring the reliability and validity of the findings, as the use of standardized measures and statistical analysis facilitated the accurate and rigorous assessment of the participants' preparedness for inclusive education. I strongly believe that factual knowledge gained through measurement is trustworthy. The positivists ascertain that, the objective reality of the world can be studied through observation and measurement and the laws governing human behavior can be identified through systematic and rigorous research (Bonache & Festing, 2020). Hjelm (2024) posited that, the positivist paradigm is based on the assumption that a single tangible reality exist-one that can be understood, identified and measured. This means that, the positivist paradigm relies on

measurement and reason, that knowledge is revealed from a neutral and measurable (quantifiable) observation of activity, action or reaction (Kankam, 2019). This suggest that anything that cannot be observed and measured (that is quantified), is or little or no importance (Malhotra, 2017). On this note, a paradigm can be seen as a pattern or widely held philosophy and approach that underpins a theory or methodology (Fobi, 2023).

3.2 Research Approach

This study employed a quantitative research approach because the study allowed the utilization of standardized measurement tool (questionnaire) for the collection of numerical data, providing a clear and structured view of the participants' understanding. Through the use of the questionnaire, the study objectively assessed preservice teachers' level of preparedness, identified gaps in their knowledge, and evaluated the effectiveness of inclusive education programs. Quantitative research aims to achieve generalizability by using large sample sizes and random sampling techniques, hence the study investigated 320 preservice teachers quantitatively. Quantitative research approach allows researchers to draw conclusions and make inferences about a larger population beyond the study sample (McDermott, 2023). The quantitative approach allowed objective measurement of the data, ensuring that the findings are based on reliable and quantifiable information. The statistical analysis used in quantitative research allowed for robust data interpretation and provided insights into the hypothesis between variables. Fobi (2023), identified quantitative research approach as the systematic examination of phenomena through the collection of numerical data and the application of statistical, mathematical or computational tools

3.3 Research Design

The study employed a Comparative survey design to systematically collect, describe, compare and summarize the data in order to gain a better understanding of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparation

towards the practice of Inclusive Education at the University of Education, Winneba. Comparative survey is a type of descriptive research design that helps in providing a comprehensive and detailed description of the variables or phenomena and it is especially useful when the aim of the study is to understand characteristics, differences, patterns and relationships within a specific context (Creswell & Creswell, 2018; Cohen, Manion, & Morrison, 2018). Siedlecki (2020) identified descriptive survey design as to describe individuals, events or conditions by studying them as they are in nature however, the researcher does not manipulate any of the variables instead they describe the sample and/or the variables. Specifically, this study employed a descriptive comparative survey design to explore Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparation towards the practice of Inclusive Education at the University of Education, Winneba through the use of questionnaire to collect data from both groups, compare and raised hypothesis to draw inferences between the two groups. Niluh (2024), posited that a descriptive comparative survey involves collecting data to test hypotheses or to answer questions and draw inferences between two groups about a topic through the use of a questionnaire. In order to achieve the set goals and objectives of this study, descriptive comparative survey design was deemed appropriate and used to give a holistic understanding of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparation towards the practice of Inclusive Education at the University of Education, Winneba.

3.4 Population

The population of the study was 415 final year students (Level 400) enrolled in the Department of Special Education at the University of Education, Winneba, comprising of 229 Special Education preservice teachers and 186 Community-Based Rehabilitation and Disability Studies preservice teachers.

The choice of this specific population for the study is attributed to the fact that the Department of Special Education was established with the primary purpose of training teachers and preparing them for the practice of Inclusive Education (University of Education, Winneba, 2022). The final year students within this department were considered appropriate and relevant population for assessing the preparedness of preservice teachers in the context of inclusive education because they have completed most of their coursework, including theoretical and practical components related to inclusive education, and are expected to demonstrate the competencies required for effective inclusive teaching during their final teaching practice or internship (University of Education, Winneba, n.d.).

3.5 Sample Size

The sample size for the study was 320 preservice teachers, consisting of 160 Special Education and 160 Community-Based Rehabilitation and Disability Studies preservice teachers. Out of the 415 questionnaires distributed, 164 questionnaires were returned from the Special Education group and 166 from the Community-Based Rehabilitation and Disability Studies group, resulting in 330 completed responses. To ensure representativeness and minimize selection bias, a simple random sampling technique was employed using a random number generator in Microsoft Excel, as Etikan and Bala (2017), opined that simple random sampling is appropriate when the sampling frame is known and the goal is to achieve statistical representativeness without researcher interference. A numbered list of students in each group was created, and numbers were randomly selected using Microsoft Excel to identify participants from each group. 160 valid responses were randomly selected from each group, making a final sample size of 320 used for analysis. This approach helped enhance the reliability and validity of the findings, as equal group sizes reduce the risk of statistical bias and improve the robustness of comparative studies (Cohen et al., 2018; Creswell & Creswell, 2018; McMillan & Schumacher, 2020).

Table 3.1

Population and Sample of Participants

Programme	Population	Sample	Percentage Sampled
Special Education	229	160	69.86%
Community-Based Rehabilitation and Disability Studies	186	160	86.02%

***Source**: Author's Computations from field Data, 2024*

3.6 Sampling Technique

The study adopted the random number method of the simple random sampling technique to sample the preservice teachers, drawing upon the foundational principles of probability sampling. This approach was implemented to ensure that each preservice teacher within the population had an equal and unbiased chance of being selected for the study, thereby minimizing the potential for sampling bias and enhancing the generalizability of the research findings (Creswell & Creswell, 2018; Cohen, Manion, & Morrison, 2018; Fraenkel, Wallen, & Hyun, 2019). The Following steps were taken to ensure the appropriate and unbiased selection of participants:

Firstly, the population of the preservice teachers who were eligible for inclusion in the study was defined. This included establishing the criteria for being classified as a preservice teacher and determining the programme level of study.

More so, comprehensive sampling frame was developed, comprising a list of all the preservice teachers within the defined population. This list was meticulously organized to include the relevant identifying information for each potential participant, ensuring the accuracy and completeness of the sampling frame.

Moreover, after the questionnaires were administered to the respondents, each questionnaire in the sampling frame was assigned a unique identification number. These identification numbers were essential for the random selection process, as they facilitated the systematic and unbiased assignment of a numerical label to each questionnaire.

Lastly, random number generator in Microsoft excel was used to select 160 participants each for both groups of preservice teachers. the selected questionnaires were then verified against the sampling frame to confirm its eligibility and ensure the accuracy of the selection process. Any discrepancies or inconsistencies were meticulously addressed to maintain the integrity and validity of the sample.

Cooksey et al. (2019) identifies simple random sampling as a straightforward and transparent method that involves the random selection of participants from a larger population, with each member having an equal probability of being included in the sample. Simple random sampling ensures that every preservice teacher in the population had an equal chance of being chosen for the study, which is in line with Noor et al. (2022) who emphasize fairness and impartiality. This method reduced the possibility of systematic errors and made it possible to estimate important parameters and features objectively that are relevant to preservice teachers' readiness for inclusive education.

3.7 Research Instrument

The study employed structured close-ended questionnaire to gather data for the study. The questionnaire comprised of five sections that includes; Section A, Section B, Section C, Section D, Section E. The section A consisted of the demographic information of the participants, which included their age range, gender, level of study and programme of study. The section B, C, D, and E of the study employed a 4-point Likert scale to assess participants. This scale was intentionally chosen over the more commonly used 5-point scale to eliminate the neutral midpoint, thereby compelling respondents to make a clear evaluative judgment. According to

recent research, forcing respondents to avoid a neutral position enhances the discriminatory power of the scale and yields more reliable and actionable data (Boone & Boone, 2017; Leung, 2011; Joshi et al., 2015).

From a positivist epistemological standpoint, which underpins this study, knowledge is derived from observable, measurable facts and objective data. The 4-point scale aligns with this view by encouraging quantifiable responses that reduce ambiguity and subjectivity. By removing the neutral option, the scale minimizes indecision and fosters clear, measurable distinctions in participants' knowledge levels, thereby supporting the positivist emphasis on valid, empirical generalizations (Creswell & Creswell, 2018).

The section B assessed preservice teachers' knowledge on Inclusive Education. The section C assessed Preservice teachers' preparation on the selection and use of appropriate teaching and learning resources. The section D assessed preservice teachers' preparation on the adaptation of teaching strategies for an Inclusive Class. The last section E assessed preservice teachers' preparation on assessment practice. In all, the questionnaire consisted of 74 items. Sample and details of the questionnaire can be found in the Appendix A. The questionnaire was adapted. The section B and C of the questionnaire that assessed Preservice teachers' knowledge on Inclusive Education and Preservice teachers' preparation on the selection and use of appropriate Teaching and Learning Resources respectively were adapted from Metsala and Harkins (2020). The Section D and E of the questionnaire was adapted from Oloo et al. (2021) who conducted a study on preservice teachers' preparation on teaching strategies and assessment practices in a classroom setting.

The questionnaires were adapted for this study due to its well-established reliability, relevance to the objectives of the research, contextual fit, and thorough examination of important concepts. The goal of the study was to use the strengths of the adapted questionnaire, a validated instrument customized for the Ghanaian educational context to enable a thorough and

perceptive investigation of preservice teachers' preparedness for inclusive education at the University of Education, Winneba.

3.8 Validity of the instrument

The study employed construct validity to ensure the validity of the instrument. This approach was essential for ensuring that the instrument effectively address the research objectives and measures the preparedness of preservice teachers towards the practice of inclusive education at the university of education, winneba. To ensure the validity of the instrument, the following steps were taken:

Firstly, an extensive and thorough literature review was the first step in implementing construct validity. This in-depth analysis of previously published scholarly works, research articles, and relevant literature was carried out to uncover information that was pertinent and in line with the study's objectives and the adapted questionnaire. The research instrument was modified to cover a wide range of elements important to the topic by incorporating the insights and findings from reliable sources. For example, the term “Teaching and Learning Materials” was changed to “Teaching and Learning Resource” in order to meet the current trend of education.

The developed questionnaire was then rigorously evaluated by my supervisor and an expert in the area, all of whom were well-known in the training and practice of inclusive education. These professionals had a wealth of knowledge and expertise, making them qualified to assess the questionnaire's content. They conducted a critical evaluation to determine each item's appropriateness, accuracy, and relevance in light of the study's goals. The items that failed to meet the strict standards established by the experts were discovered during this evaluation.

Lastly, a Confirmatory Factor Analysis (CFA) was conducted to assess whether items that are supposed to measure the same construct are highly correlated. This is to ensure that constructs that are supposed to be distinct are not overly correlated. The Comparative Fit Index (CFI) analysis was ascertained and all items on the questionnaire scored above the acceptable threshold of ≥0.85. Overall, the four (4) research questions scored CFI≥0.95, 0.90, 0.92, 0.91 respectively. The analysis confirmed that each factor represents their unique construct. This is to ensure that only the most relevant and significant items on the questionnaire remained after the analysis to ensure a more valid instrument.

The degree to which the data actually reflect the subject matter being studied is referred to as validity in research (Bull et al., 2022). They contended that, validity is an essential measure that certifies the precision and fidelity with which the research instrument measures the intended constructs eloquently. In this context, the thorough application of content validity through a thorough literature review, expert assessment, and factor analysis reinforces the credibility of the research instrument and, consequently, the validity of the data it collects.

3.9 Reliability of Instrument

In this study, the internal reliability of the 74-item questionnaire was assessed using Cronbach's alpha internal reliability analysis. To find out the reliability of the instrument, the questionnaire was administered to 27 respondents ensuring standardized procedures for data collection to maintain the integrity and consistency of the responses. The responses on the questionnaire were transcribed into a Microsoft office excel sheet suitable for statistical analysis. The data was accurately recorded and free from errors. The data on the excel sheet was imported into the SPSS software and the Cronbach's alpha reliability analysis was run for each research question. From the results on the reliability statistics, the internal consistency among the questionnaire items for the four (4) research questions was 0.83, 0.81, 0.79, 0.80 respectively, indicating a more reliable instrument.

Generally, a Cronbach's alpha value of 0.7 or higher is considered acceptable for research purposes (Adeniran, 2019). A Cronbach's alpha of 0.79 suggests that the questionnaire items appear to be reasonably consistent in measuring the construct of interest, in this case the preservice teachers' preparation towards the practice of inclusive education.

3.10 Pre-test of the Instrument

A pre-test on the questionnaire was conducted at the Dambai College of Education, which was a preliminary evaluation of the questionnaire. These participants were chosen because the college trained them in introductory courses in Special Education, ensuring that their students are trained to become teachers with a foundational understanding of inclusive education. This setting provided a relevant context for the pretest, as it allowed the researcher to assess the initial knowledge and preparedness of preservice teachers in a similar educational environment. Prior to using the questionnaire in the main study, this pre-test was designed to assess its efficacy, clarity, and reliability. The questionnaire was administered to 46 teacher trainees who willfully participated in the study. Following the completion of the questionnaire, the participants were encouraged to provide feedback on their experience with the questionnaire. Their feedback on the questionnaire's clarity, thoroughness, and relevance to their experiences as preservice teachers were all included in their responses. The study employed both unstructured interviews and open-ended questions to collect qualitative data regarding the opinions and recommendations of participants regarding the enhancement of the questionnaire. It became clear that there were no ambiguous question items after examining the pre-test responses. The distribution of responses suggested that preservice teachers had no trouble answering all of the survey questions.

It is important to note that, the pre-test exposed the respondents of the Dambai College of Education to the same conditions as the main study. This consistency made it possible to make an accurate assessment of how the questionnaire would perform in actual research settings

3.11 Data Collection Procedure

The study's data collection process was carefully planned to ensure that, reliable and high-quality data were obtained. Potential participants were contacted directly after receiving introductory letter from the Department of Special Education (Appendix C), and eligible participants were located through professional networks.

Participants were given a comprehensive explanation of the study's objectives, methods, potential risks, and benefits prior to the start of data collection. An informed consent form outlining their rights as participants and the voluntary nature of their participation was given to them. Before taking part in the study, participants had the chance to ask questions and give a written consent. Refer to Appendix B for a sample of the consent form.

Validated questionnaires were distributed in person, along with comprehensive guidelines on how to fill them out. The duration for data collection lasted for two months. Participants were given a 2-hour window of time to complete and return the questionnaires each day the questionnaires were distributed. This window of time was selected to guarantee that respondents had sufficient time to carefully read and consider each question on the survey, thus promoting an effective process of gathering data.

During the process of administering the questionnaire, timely reminder notices were sent to participants who received the questionnaires to maximize response rates, emphasizing the importance of their participation in the study. The purpose of this proactive measure was to encourage participants to promptly complete and submit the questionnaires.

The collected questionnaires were retrieved through designated collection points, with meticulous attention given to maintaining the confidentiality of participants' responses. This safeguarding of participant privacy was a paramount consideration throughout the data

collection process, upholding ethical standards and ensuring the integrity of the research endeavor.

3.12 Data Analysis

Following the distribution of the questionnaires, the responses were diligently transcribed from the paper format to a Microsoft Office Excel document. The transcribed data were subsequently imported into the SPSS software (Version 26) for comprehensive analysis. The software facilitated a detailed examination of each individual item on the questionnaire for both groups.

To ensure data cleaning**,** I ensured that all questionnaires were fully completed. Incomplete responses were flagged and discarded. Errors were identified and corrected.

To ease the analysis, categorical responses were converted into numerical values. For example, responses such as “Strongly Agree”, “Agree”, “Disagree”, and “Strongly Disagree” was coded as 4, 3, 2, and 1, respectively. Male was coded as 1 and Female was coded as 2.

Descriptively, the frequency and percentage of responses for categorical variables were determined. This helped in understanding the distribution of responses. The mean was calculated for continuous variables to summarize the central point of the data.

Drawing on inferential statistics, z-test was used to compare the means of the two independent groups (Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers) to determine if there is a statistically significant difference in their knowledge on inclusive education, their ability to adapt Teaching and Learning Resources in an inclusive classroom, teaching strategies and assessment practices in an inclusive classroom.

Microsoft Office Excel was used to perform the statistical tests including z-test. The, standard deviation, mean difference, z-value and p-values were recorded. These statistical measures were employed to succinctly summarize and elucidate the characteristics inherent in the data.

This method not only offered an overview of the responses but also played a pivotal role in identifying patterns and trends within the dataset.

3.13 Ethical consideration

All the participants were informed of the purpose and nature of the study and their consent was obtained. Participants were assured of anonymity and confidentiality of their data verbally and in writing through consent forms in English language, refer to Appendix B for a sample of the information sheet and consent forms. Prospective participants were also reminded that their participation was entirely voluntary and that refusal to participate would not affect their relationship with the researcher, the department and the university. Data were stored securely on my HP X2 Pro 612 Laptop and a USB drive with a strong password encrypted on the data. Participants confidentiality and anonymity were protected through the use of pseudonyms.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter presents the results, analysis and discussions of preservice teachers' preparation towards the practice of inclusive education at the university of education, winneba which further address all the research questions in the study. This chapter also compares and contrasts the literature reviewed in Chapter Two with the research findings presented. The purpose of the discussion is to highlight any discrepancies or similarities between the findings of this study and previous research or literature that has been examined in this thesis, clarifying the knowledge the researcher wants to impart to the reader. The discussion of the findings is structured around the study objectives and how the Shulman's Pedagogical Content Knowledge (PCK) applies to the findings.

4.1 Results from Preservice Teachers

The study's target population consisted of 415 level 400 preservice teachers enrolled in the Department of Special Education at the University of Education, Winneba. A total of 330 questionnaires were retrieved, 164 from Special Education preservice teachers and 166 from Community-Based Rehabilitation and Disability Studies preservice teachers, yielding an overall response rate of approximately 79.5%. Following data cleaning and validation procedures, a final sample size of 160 participants from each group (n = 320) was retained for analysis. This sample was considered adequate based on established guidelines in survey research, which emphasize the importance of high response rates and representative sampling for ensuring statistical reliability and generalizability (Creswell & Creswell, 2018; Fraenkel, Wallen, & Hyun, 2019).

4.1.1 Academic qualification

The academic qualification of the respondents in this study was critical in ensuring the relevance and credibility of the data gathered. All participants were final-year (Level 400) undergraduate students enrolled in the Department of Special Education at the University of Education, Winneba, pursuing either a Bachelor of Education in Special Education or a Bachelor of Education in Community-Based Rehabilitation and Disability Studies. According to the National Accreditation Board (2021), teacher education programs in Ghana at the undergraduate level are structured to meet the standards of professional qualification, typically requiring completion of core pedagogical courses, subject specialization, and practicum experiences. As final-year students, the preservice teachers had completed the majority of their coursework, including modules on introduction to inclusive education, teaching learners in a mainstream classroom, assessment of school-age learners with disabilities, instructional technology for learners with special needs and introduction to special education, thereby positioning them as academically qualified to provide informed perspectives on inclusive education readiness. The academic background of these participants provided a strong foundation for exploring the extent to which their training prepared them for real-world inclusive classroom settings (Ametepee & Anastasiou, 2020; Opoku et al., 2021).

4.1.2 Gender of Respondents

The gender distribution tables provide a detailed overview of the gender composition of the study's participants. These tables are essential for understanding the demographic characteristics of the sample, offering insights into the representation of male and female preservice teachers in both the Special Education and Community-Based Rehabilitation and Disability Studies programs.

Table 4.0

Gender distribution for Special Education Preservice teachers

Special Education	Category	Frequency (n=160)	Percentage (%)
Gender	Male	87	54.4
	Female	73	45.6

***Source**: Author's Computations from field Data, 2024*

From the table 4.0, among the Special Education preservice teachers, males constitute a higher proportion (54.4%) compared to females (45.6%). This indicates a male predominance in the study. Although males are in the majority, females also have a substantial presence, representing nearly half of the preservice teachers in Special Education.

Table 4.1

Gender distribution for Community-Based Rehabilitation and Disability Studies preservice teachers

Community-Based Rehabilitation and Disability Studies programs	Category	Frequency (n=160)	Percentage (%)
Gender	Male	69	43.1
	Female	91	56.9

***Source**: Author's Computations from field Data, 2024*

From Table 4.1, Community-Based Rehabilitation and Disability Studies programs preservice teachers shows a higher proportion of females (56.9%) compared to males (43.1%). This suggests that females are more represented in the study among the preservice teachers. There is a notable difference in gender distribution between Special Education and Community-Based Rehabilitation and Disability Studies programs preservice teachers. Special Education has a male majority, while Community-Based Rehabilitation and Disability Studies programs has a female majority.

A closer examination of this gender imbalance necessitates an exploration of various facets of teacher preparation, encompassing pedagogical approaches, awareness of diverse learning

needs, and attitudinal considerations in the context of inclusive education. Drawing insights from the research conducted by Mamube (2018), which highlights the role of gender in shaping teaching styles, it becomes evident that gender-related disparities may extend beyond the classroom and influence the willingness of female preservice teachers to engage in inclusive training.

4.2 Research Question One and Null Hypothesis 1: What is Preservice Teachers' Knowledge on Inclusive Education?

$H_0$1: *There is no statistically significant difference in the knowledge of inclusive education between Special Education and Community-Based Rehabilitation and Disability Studies programs preservice teachers.*

This objective seeks to investigate preservice teachers' knowledge on inclusive education. Table 4.2 provides a comparative analysis for Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers. The table compares and contrasts the knowledge levels of inclusive education between the two groups. The mean scores and standard deviation were used to facilitate this comparison. The higher the mean score, the higher the level of agreement with their knowledge on inclusive education. The analysis focused on identifying any significant differences or similarities in the knowledge of inclusive education between Special Education and Community-Based Rehabilitation and Disability Studies programs preservice teachers.

TABLE 4.2

Comparison between Preservice teachers' Knowledge on Inclusive Education

PREMISE	Special Education		Community-Based Rehabilitation and Disability Studies	
	Mean	Standard Deviation	Mean	Standard Deviation
I have clear concepts of the term "Inclusion"	3.05	0.76	3.49	0.87
Every child regardless of disabilities has the right to be educated in the regular class.	3.54	0.66	3.52	0.65
Students with special needs can best be served in the general education classroom.	2.99	0.78	3.01	0.70
The inclusion of students with special needs in the class can be beneficial for students without disabilities. .	3.27	0.68	3.23	0.83
Students with special needs benefit both academically and socially from being placed in an inclusive setting	3.37	0.84	3.46	0.74
Inclusive teaching is a successful education system to address learners' needs.	3.36	0.71	3.42	0.76
Inclusive teaching requires collaboration among teachers (General &special).	3.66	0.54	3.66	0.67
Successful implementation of inclusive education requires special training for teachers.	3.63	0.57	3.65	0.60
Teachers should use different methods of teaching to satisfy the needs of disabled students.	3.64	0.60	3.66	0.56
Teachers should have opportunities to adapt the syllabus and teaching materials while teaching in inclusive classes.	3.55	0.70	3.57	0.57
The teacher should encourage cooperative learning to make all students support each other.	3.17	0.90	3.48	0.71
Inclusive teaching makes the teacher feel more responsible for students with special needs.	3.48	0.73	3.50	0.77
Teacher should manage the classroom layout and setting plan for the children with special needs.	3.37	0.60	3.37	0.77
Teachers should use differentiated instruction in an inclusive classroom	3.54	0.69	3.49	0.64
Teachers should collaborate with other professionals in designing individualized educational plans (IEP) for students with disabilities.	3.56	0.62	3.53	0.74

***Source**: Author's Computations from field Data, 2024*

From table 4.2, the mean score for the item "I have clear concepts of the term Inclusion" is 3.05 for Special Education and 3.49 for Community-Based Rehabilitation and Disability

Studies programs, with standard deviations of 0.76 and 0.87, respectively. The higher mean score for Community-Based Rehabilitation and Disability Studies programs suggests that practitioners in this field generally have a clearer understanding of the term "Inclusion" compared to those in Special Education. The higher standard deviation in Community-Based Rehabilitation and Disability Studies programs indicates a wider range of opinions on the clarity of this concept, possibly reflecting varied levels of familiarity or training in inclusion practices. The lower mean score in Special Education may indicate a need for further emphasis on clarifying and standardizing the understanding of inclusion within this field.

Regarding "Every child regardless of disabilities has the right to be educated in the regular class," the mean scores are 3.54 for Special Education and 3.52 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.66 and 0.65 respectively. These closely aligned mean scores reflect a shared commitment to the principle that all children, regardless of disabilities, should have the opportunity to be educated in regular classrooms. The similar standard deviations indicate a consistent view across both fields on this fundamental right, highlighting a common understanding of the inclusive education mandate.

For the item "Students with special needs can best be served in the general education classroom," the mean scores are 2.99 for Special Education and 3.01 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.78 and 0.70 respectively. The relatively low mean scores suggest that there is some skepticism or reservation about the effectiveness of general education classrooms in fully serving students with special needs. The minimal difference in mean scores and the variation in standard deviations point to a shared recognition of the challenges and limitations associated with serving special needs students in general education settings.

The mean scores for "The inclusion of students with special needs in the class can be beneficial for students without disabilities" are 3.27 for Special Education and 3.23 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.68 and 0.83 respectively. The close means indicate a general agreement on the potential benefits of inclusion for students without disabilities. However, the slightly lower mean scores and higher standard deviation in Community-Based Rehabilitation and Disability Studies programs suggest that while the benefits are acknowledged, there may be varied opinions on the extent and nature of these benefits.

For the item "Students with special needs benefit both academically and socially from being placed in an inclusive setting," the mean scores are 3.37 for Special Education and 3.46 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.84 and 0.74 respectively. The higher mean score for Community-Based Rehabilitation and Disability Studies programs indicates a slightly stronger belief in the academic and social benefits of inclusive settings for students with special needs. The higher standard deviation in Special Education suggests a broader range of views on the extent of these benefits, reflecting varied experiences and expectations within this field.

The mean scores for "Inclusive teaching is a successful education system to address learners' needs" are 3.36 for Special Education and 3.42 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.71 and 0.76 respectively. The close mean scores indicate a shared view on the success of inclusive teaching in addressing diverse learners' needs. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies programs suggests a marginally stronger confidence in the effectiveness of inclusive teaching practices. The similar standard deviations point to a common perspective on the value of inclusivity in education.

"Inclusive teaching requires collaboration among teachers (General & Special)" shows mean scores of 3.66 for both Special Education and Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.54 and 0.67 respectively. The identical mean scores reflect a strong and consistent recognition of the importance of collaboration between general and Special Education teachers in implementing inclusive teaching practices. The slightly higher standard deviation in Community-Based Rehabilitation and Disability Studies programs indicates a broader range of opinions on how collaboration is achieved or its effectiveness, yet the overall agreement confirms the necessity of teamwork in inclusive education.

The item "Successful implementation of inclusive education requires special training for teachers" shows mean scores of 3.63 for Special Education and 3.65 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.57 and 0.60, respectively. These closely aligned means reflect a shared recognition of the necessity for specialized training to effectively implement inclusive education. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies programs suggests a marginally stronger belief in the importance of this training, although the similar standard deviations indicate a general consensus on the need for professional development in this area. This points out the importance of equipping teachers with the skills and knowledge necessary to address diverse learner needs.

Regarding "Teachers should use different methods of teaching to satisfy the needs of disabled students," the mean scores are 3.64 for Special Education and 3.66 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.60 and 0.56 respectively. The close means suggest a shared understanding of the importance of employing varied teaching methods to meet the needs of students with disabilities. The slightly higher mean for Community-Based Rehabilitation and Disability Studies programs indicates a slightly greater

emphasis on this practice. The similar standard deviations reflect a general agreement on the value of diverse instructional approaches, highlighting the necessity for flexibility in teaching strategies to accommodate different learning styles and needs.

The item "Teachers should have opportunities to adapt the syllabus and teaching materials while teaching in inclusive classes" has mean scores of 3.55 for Special Education and 3.57 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.70 and 0.57 respectively. The closely aligned means suggest that both fields recognize the importance of adapting the syllabus and teaching materials to support inclusive education. The slightly higher mean for Community-Based Rehabilitation and Disability Studies programs reflects a marginally stronger belief in the need for adaptability. The variation in standard deviations indicates some differences in how this adaptability is perceived or implemented, with Community-Based Rehabilitation and Disability Studies programs showing a more consistent view on the necessity of modifying instructional resources.

The item "The teacher should encourage cooperative learning to make all students support each other" reveals mean scores of 3.17 for Special Education and 3.48 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.90 and 0.71 respectively. The higher mean score for Community-Based Rehabilitation and Disability Studies programs indicates a stronger emphasis on the role of cooperative learning in fostering mutual support among students. The lower mean score for Special Education, combined with a higher standard deviation, suggests that while cooperative learning is recognized as beneficial, there may be more variability in its perceived importance or implementation within Special Education settings. The significant difference in mean scores highlights a potential area for development, where increasing the focus on cooperative learning could enhance the effectiveness of inclusive practices.

The item “Inclusive teaching makes the teacher feel more responsible for students with special needs” has mean scores of 3.48 for Special Education and 3.50 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.73 and 0.77 respectively. The close means suggest a shared sense of increased responsibility among teachers when engaging in inclusive teaching. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies programs indicates a marginally stronger perception of this added responsibility, though the similar standard deviations reflect a comparable range of opinions within both fields. This indicates that both Special Education and Community-Based Rehabilitation and Disability Studies programs practitioners acknowledge the heightened sense of accountability that comes with addressing the needs of students with disabilities.

Regarding “Teachers should manage the classroom layout and setting plan for the children with special needs,” the mean scores are 3.37 for both Special Education and Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.60 and 0.77 respectively. The identical means reveal a consistent recognition of the importance of managing classroom layout and setting to accommodate students with special needs. However, the higher standard deviation in Community-Based Rehabilitation and Disability Studies programs suggests a broader range of opinions or experiences related to classroom management for these students. This indicates that while there is general agreement on the necessity of thoughtful classroom planning, the implementation and perceived effectiveness of such strategies may vary.

For “Teachers should use differentiated instruction in an inclusive classroom,” the mean scores are 3.54 for Special Education and 3.49 for Community-Based Rehabilitation and Disability Studies programs, with standard deviations of 0.69 and 0.64 respectively. The similar mean scores reflect a shared understanding of the importance of differentiated instruction to meet the

diverse needs of students in an inclusive setting. The slightly higher mean score for Special Education suggests a marginally greater emphasis on this approach within that field. The standard deviations indicate that while there is broad agreement on the need for differentiated instruction, there may be variations in how it is applied or valued in practice.

Finally, the item "Teachers should collaborate with other professionals in designing individualized educational plans (IEP) for students with disabilities" has mean scores of 3.56 for Special Education and 3.53 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.62 and 0.74 respectively. These closely aligned means show a shared recognition of the importance of professional collaboration in creating effective IEPs. The slightly higher mean score for Special Education suggests a slightly stronger belief in the value of collaboration. The higher standard deviation in Community-Based Rehabilitation and Disability Studies indicates a wider range of opinions on the role and effectiveness of collaboration in developing individualized plans, reflecting potential differences in experiences or practices.

4.2.1 $H_0$1: *There is no statistically significant difference in the knowledge of inclusive education between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.*

The purpose of this analysis is to compare the knowledge of inclusive education between Special Education and Community-Based Rehabilitation and Disability Studies. The study employed inferential statistics to determine whether there is a significant difference between the two groups.

Table 4.3

Inferential statistics on Knowledge of Inclusive Education between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers

Groups	Number of Questionnaire items	Mean (Max =4)	Mean Difference	Standard Deviation	Variance	P-Value	Z-Value	Remarks
Special Education	15	3.41	0.057	0.212	0.045	0.207	-0.816	Not Significant
Community-Based Rehabilitation and Disability Studies	15	3.47		0.169	0.029			

P > 0.05 = Not Significant, P< 0.05 = Significant

The data presented in Table 4.3 provides a comprehensive comparative analysis of responses from two groups of preservice teachers, Special Education and Community-Based Rehabilitation and Disability Studies, based on 15 questionnaire items with a maximum score of 4. The statistical metrics used for this analysis include the mean, mean difference, standard deviation, variance, p-value, and z-value, allowing for a meaningful conclusion about the knowledge of inclusive education between these two groups.

The mean scores for Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers are 3.41 and 3.47, respectively. This slight difference in means (0.057) suggests that, on average, Community-Based Rehabilitation and Disability Studies preservice teachers scored marginally higher than Special Education preservice teachers in terms of their knowledge of inclusive education. However, to determine whether this difference is statistically significant, further statistical analysis was carried out.

The mean difference between the two groups is 0.057. To evaluate the significance of this difference, the p-value and z-value was derived from the analysis. The p-value is 0.207, which is greater than the commonly accepted significance level of 0.05. This indicates that the

observed difference in mean scores is not statistically significant, implying that the difference could have occurred by random chance.

The z-value of -0.816 provides additional insight into the comparison. For the results to be considered statistically significant at the 95% confidence level, the z-value should typically be greater than 1.96 or less than -1.96. Since the z-value in this analysis is -0.816, which falls well within the range of -1.96 to 1.96, it further supports the conclusion that the difference in mean scores between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers is not statistically significant.

The standard deviation for Special Education preservice teachers is 0.212, while for Community-Based Rehabilitation and Disability Studies preservice teachers, it is 0.169. These values indicate that Special Education preservice teachers' scores are slightly more spread out compared to Community-Based Rehabilitation and Disability Studies preservice teachers. Variance, which is the square of the standard deviation, further supports this observation, with Special Education having a variance of 0.045 and Community-Based Rehabilitation and Disability Studies having a variance of 0.029. The smaller variance for Community-Based Rehabilitation and Disability Studies suggests more consistency in their responses compared to Special Education preservice teachers.

Given the p-value of 0.207 and the z-value of -0.816, both statistical measures indicate that the observed differences are likely due to random variation rather than a true difference in knowledge levels between the two groups. Therefore, the study accepts the null hypothesis, which states that there is no significant difference in the knowledge of inclusive education between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers at the University of Education, Winneba.

4.3 Discussion- Research Question One

The detailed analysis of the results presented in Table 4.1 unveils a notable trend, indicating that a majority of the surveyed preservice teachers, both from Special Education and Community-Based Rehabilitation and Disability Studies backgrounds, exhibit a sound understanding or possess knowledge related to inclusive education. This positive disposition toward inclusive education among preservice teachers stands in stark contrast to the findings of Baguisa and Ang-Manaig (2019), who reported that a significant portion (17.4%) of preservice teachers applying for teaching positions in the Bay District of the Philippines lacked awareness of inclusive education policies. Moreover, those who were acquainted with these policies demonstrated only a moderate understanding.

In a related vein, Wanjiru's (2017) research confirmed concerns regarding the knowledge gap among preservice teachers, emphasizing that a sizable majority did not have the awareness and abilities needed to actively contribute to the creation and accomplishment of inclusion goals. Wanjiru reiterates the argument that preservice teachers may not fully understand every aspect of inclusive education, a pedagogical strategy intended to meet the diverse learning needs of all students. Interestingly, the current study's findings suggest a more optimistic scenario for preservice teachers within both the Special Education and Community-Based Rehabilitation and Disability Studies programs.

Carroll et al. (2003) argued that, in many preservice teacher education programs, the exposure to inclusive education is often limited to a single course. However, the findings in the current study suggest that both Special Education and Community-Based Rehabilitation and Disability Studies programs have incorporated inclusive education content across various courses or programs, providing preservice teachers with a more comprehensive understanding. This exposure to diverse perspectives within these programs appears to have equipped preservice teachers with the necessary knowledge to navigate inclusive education practices effectively.

The recognition of the departments' efforts in fostering inclusive education competencies among preservice teachers is stressed by the findings, indicating that these educators have undergone some level of training tailored to enhance their comprehension of inclusive education principles. This complex understanding ultimately adds to the overall effectiveness of inclusive education practices by better preparing preservice teachers in both Special Education and Community-Based Rehabilitation and Disability Studies programs for the opportunities and challenges posed by inclusive classrooms.

Delving into the minority of preservice teachers who, based on the findings, appear to lack a solid understanding of inclusive education, it becomes evident that this cohort may encounter challenges in accommodating the diverse needs of learners in their future classrooms. The significance of understanding inclusive education is emphasized by the insights provided by Islam et al. (2022), who posit that a teacher's grasp of inclusive education is pivotal in addressing the unique needs of students within a classroom setting. In essence, inclusive education is designed to eliminate barriers that impede student participation, fostering an environment conducive to effective teaching and learning. This viewpoint is also shared by Essex et al. (2021), who contend that preservice teachers may find it difficult to create a welcoming and supportive learning environment if they have a limited understanding of inclusive education. Beyond just acknowledging individual differences, inclusive education entails implementing instructional practices that actively engage all students, irrespective of their backgrounds, learning preferences, or skill levels. Preservice teachers are better positioned to implement inclusive practices that support accessibility and equal opportunities for every student when they have a thorough understanding of inclusive education.

4.4 Research Question Two and Null Hypothesis 2: Which preparation do preservice teachers receive on the selection and use of appropriate Teaching and Learning Resources?

$H_0$1: *There is no statistically significant difference in the preparation preservice teachers receive on the selection and use of appropriate teaching and learning resources between Special Education and Community-Based Rehabilitation and Disability Studies.*

This research question seeks to investigate preservice teachers' preparation in the selection and use of appropriate teaching and learning resources in an inclusive classroom. The data provided includes mean scores from the descriptive statistics on a 4-point Likert scale, comparing the responses of preservice teachers from the two groups: Special Education and Community-Based Rehabilitation and Disability Studies. The analysis is based on their mean scores and standard deviation for various questionnaire items related to this preparation, as outlined in the table 4.4.

TABLE 4.4:

Comparison of preservice teachers' preparation on the selection and use of appropriate teaching and learning resources in an inclusive classroom.

Premise	Special Education		Community-Based Rehabilitation and Disability Studies	
	Mean	Standard Deviation	Mean	Standard Deviation
Teacher can use of TLR as a supplement of textbook	3.25	0.78	3.38	0.73
Teacher use of TLR is to arouse curiosity in students during a lesson	3.43	0.68	3.44	0.68
Teacher use of TLR is to establish two-way communication between teacher and students	3.32	0.68	3.41	0.65
Teacher use of TLR in teaching in groups is to offer students opportunity to support peers in learning	3.40	0.63	3.44	0.62
Low level of the use of TLR by teachers in teaching results in ineffective classroom management	3.14	0.87	3.14	0.84
Teacher uses of TLR to assess students' learning in a lesson.	2.98	0.94	3.09	0.87
Teacher use of TLR is to provide students with feedback	2.83	0.92	2.96	0.88
Teacher use of TLR is to encourage collaboration among students in a lesson	3.28	0.81	3.36	0.78
Teacher selection and use of TLR is for the developmental level of students in a lesson	3.33	0.65	3.33	0.69
Teacher use of TLR in teaching is to sustain students' interest in a lesson	3.59	0.66	3.60	0.65
Teacher can hold general discussion with students after the use of TLR in a lesson	3.28	0.74	3.33	0.75
Teacher use of TLR is to help students predict the outcome of investigation before exploration	3.16	0.75	3.18	0.79
Teacher use of TLR is to encourage students to learn in a lesson	3.53	0.65	3.51	0.66
Teacher use of TLR is to cause students to think and make meaning in a lesson	3.46	0.73	3.44	0.77
Teacher use of TLR is to enable students to explore the subject matter	3.46	0.57	3.50	0.60
Teacher monitors students' interactions with TLR in a lesson	3.30	0.66	3.35	0.71
Teacher uses TLR to bring about flexibility in learning among students	3.36	0.70	3.39	0.71
Teacher uses TLR to help students gain confidence of their abilities in science	3.17	0.89	3.26	0.82
Teacher uses of TLR in teaching in groups is to offer students opportunity of observing, classifying, and organising information	3.49	0.65	3.43	0.72
Teacher should modify TLR to reflect needs of students in lesson	3.53	0.60	3.57	0.62
Teacher use of TLR brings about self-directed learning among students	3.46	0.73	3.40	0.79
Teacher use of TLR is to encourage students to look carefully in learning	3.31	0.75	3.27	0.78
Teacher use of TLR is to help students confront their thinking that is correct scientific knowledge	3.23	0.72	3.28	0.73
Teacher use of TLR is to meet students' needs in a lesson	3.38	0.72	3.39	0.75
Teacher use of TLR is to ensure an improved student's performance	3.46	0.73	3.44	0.74

Source: *Author's computation from field Data, 2024*

From Table 4.4 the item "Teacher can use TLR as a supplement of textbook," the mean scores are 3.25 for Special Education and 3.38 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.78 and 0.73, respectively. The higher mean score for Community-Based Rehabilitation and Disability Studies indicates a slightly stronger belief in the value of using TLR as a supplement to textbooks. Both fields recognize the role of TLR in enriching the learning experience, but the data suggest that Community-Based Rehabilitation and Disability Studies practitioners may place a marginally higher emphasis on this supplementary role. The similar standard deviations reflect a relatively consistent view across both fields regarding the effectiveness of TLR in complementing traditional textbooks.

Regarding "Teacher use of TLR is to arouse curiosity in students during a lesson," the mean scores are 3.43 for Special Education and 3.44 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.68 and 0.68 respectively. These closely aligned means indicate a shared understanding of the importance of using TLR to engage students and stimulate their curiosity. The similar standard deviations suggest that both fields agree on the effectiveness of TLR in capturing students' interest, highlighting its role in making lessons more engaging.

For the item "Teacher use of TLR is to establish two-way communication between teacher and students," the mean scores are 3.32 for Special Education and 3.41 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.68 and 0.65 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a marginally stronger belief in the role of TLR in facilitating communication. Both fields recognize the value of TLR in promoting interactive communication, but the data indicate that Community-Based Rehabilitation and Disability Studies practitioners may

perceive this role as somewhat more significant. The similar standard deviations reflect a general consensus on the importance of TLR in fostering communication.

The item “Teacher use of TLR in teaching in groups is to offer students opportunity to support peers in learning” shows mean scores of 3.40 for Special Education and 3.44 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.63 and 0.62 respectively. The close means suggest a shared recognition of the role of TLR in facilitating peer support within group settings. The slightly higher mean for Community-Based Rehabilitation and Disability Studies indicates a marginally stronger emphasis on this aspect. The similar standard deviations reflect agreement across both fields on the effectiveness of TLR in promoting collaborative learning.

For “Low level of the use of TLR by teachers in teaching results in ineffective classroom management,” the mean scores are 3.14 for both Special Education and Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.87 and 0.84 respectively. These identical means suggest a shared belief that insufficient use of TLR can lead to challenges in classroom management. The high standard deviations indicate variability in how this relationship is perceived, reflecting differing experiences or opinions on the impact of TLR usage on classroom effectiveness.

Regarding “Teacher uses of TLR to assess students’ learning in a lesson,” the mean scores are 2.98 for Special Education and 3.09 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.94 and 0.87 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a somewhat stronger belief in the use of TLR for assessment purposes. Both groups acknowledge the potential for TLR to aid in assessing student learning, but the lower mean scores and relatively high standard deviations indicate that this role is less emphasized and more variable in practice.

The item “Teacher use of TLR to provide students with feedback” shows mean scores of 2.83 for Special Education and 2.96 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.92 and 0.88 respectively. The higher mean score for Community-Based Rehabilitation and Disability Studies indicates a slightly greater belief in the use of TLR for providing feedback. Both fields recognize the importance of feedback but suggest that the role of TLR in this regard is less prominent, as reflected by the lower mean scores and high standard deviations.

For “Teacher use of TLR is to encourage collaboration among students in a lesson,” the mean scores are 3.28 for SPECIAL Education and 3.36 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.81 and 0.78 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies indicates a marginally stronger emphasis on using TLR to foster collaboration. The similar standard deviations suggest a general agreement on the role of TLR in promoting collaborative learning, though the data imply that Community-Based Rehabilitation and Disability Studies practitioners might place a bit more focus on this aspect.

For “Teacher selection and use of TLR is for the developmental level of students in a lesson,” the mean scores are 3.33 for both Special Education and Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.65 and 0.69, respectively. This identical mean score reflects a consensus on the importance of aligning TLR with the developmental level of students. The similar standard deviations suggest that both fields agree on the necessity of tailoring TLR to suit the developmental needs of students, though the range of responses indicates some variability in how this practice is applied.

Regarding “Teacher use of TLR in teaching is to sustain students’ interest in a lesson,” the mean scores are 3.59 for Special Education and 3.60 for Community-Based Rehabilitation and

Disability Studies, with standard deviations of 0.66 and 0.65 respectively. The closely aligned means indicate a shared recognition of the role of TLR in maintaining student engagement. The similar standard deviations reflect a broad agreement on the effectiveness of TLR in sustaining interest, suggesting that both fields value TLR as a tool for keeping students focused and engaged in the lesson.

For "Teacher can hold general discussion with students after the use of TLR in a lesson," the mean scores are 3.28 for Special Education and 3.33 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.74 and 0.75 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a marginally stronger belief in the value of holding discussions following TLR use. The similar standard deviations indicate a general consensus on the importance of discussions, though there may be some variability in the perceived impact or frequency of such discussions.

The item "Teacher use of TLR is to help students predict the outcome of investigation before exploration" has mean scores of 3.16 for Special Education and 3.18 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.75 and 0.79 respectively. The close means indicate a shared recognition of the role of TLR in helping students anticipate outcomes before investigations. The high standard deviations suggest some variability in how this aspect of TLR use is perceived, reflecting differences in the effectiveness or application of this practice.

Regarding "Teacher use of TLR is to encourage students to learn in a lesson," the mean scores are 3.53 for Special Education and 3.51 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.65 and 0.66 respectively. The closely aligned means reflect a common understanding of the role of TLR in promoting student learning. The similar standard deviations suggest agreement on the effectiveness of TLR in encouraging learning,

though the slight difference in means indicates a marginally greater emphasis in Special Education.

The item "Teacher use of TLR is to cause students to think and make meaning in a lesson" shows mean scores of 3.46 for Special Education and 3.44 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.73 and 0.77 respectively. The slightly higher mean score for SPECIAL EDUCATION indicates a marginally stronger belief in the ability of TLR to stimulate critical thinking and meaning-making. The similar standard deviations reflect general agreement on this aspect of TLR use, though there is some variability in how this impact is experienced.

For "Teacher use of TLR is to enable students to explore the subject matter," the mean scores are 3.46 for Special Education and 3.50 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.57 and 0.60 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a marginally greater emphasis on the role of TLR in facilitating exploration. The similar standard deviations reflect agreement on the effectiveness of TLR in promoting exploration, though the data indicate some variability in experiences.

The item "Teacher monitors students' interactions with TLR in a lesson" shows mean scores of 3.30 for Special Education and 3.35 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.66 and 0.71 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a marginally stronger belief in the importance of monitoring student interactions with TLR. The similar standard deviations indicate general agreement on the necessity of this monitoring, though there may be variability in how it is implemented.

Regarding “Teacher uses TLR to bring about flexibility in learning among students,” the mean scores are 3.36 for Special Education and 3.39 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.70 and 0.71 respectively. The close means reflect a shared recognition of the role of TLR in facilitating flexible learning. The similar standard deviations suggest agreement on the effectiveness of TLR in promoting flexibility, though there is some variability in perceptions.

The item “Teacher uses TLR to help students gain confidence of their abilities in science” has mean scores of 3.17 for Special Education and 3.26 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.89 and 0.82 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a marginally greater emphasis on using TLR to build student confidence. The similar standard deviations indicate general agreement on the potential for TLR to enhance confidence, though the data reveal some variability in experiences.

In examining the statement “Teacher uses of TLR in teaching in groups is to offer students opportunity of observing, classifying, and organizing information,” the mean scores are 3.49 for Special Education and 3.43 for Community-Based Rehabilitation and Disability Studies with standard deviations of 0.65 and 0.72, respectively. The slightly higher mean score for Special Education suggests a marginally greater emphasis on using TLR to facilitate these cognitive processes. Both fields recognize the role of TLR in enabling students to engage in higher-order thinking activities, though the variation in standard deviations reflects some differences in how this practice is perceived and implemented.

Regarding “Teacher should modify TLR to reflect needs of students in lesson,” the mean scores are 3.53 for Special Education and 3.57 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.60 and 0.62 respectively. The higher mean score for

Community-Based Rehabilitation and Disability Studies indicates a slightly stronger belief in the necessity of adapting TLR to meet student needs. Both fields agree on the importance of modifying TLR, though the data suggest that Community-Based Rehabilitation and Disability Studies practitioners might place a marginally higher emphasis on this aspect. The similar standard deviations reflect a shared understanding of the need for flexibility in TLR usage.

For the item "Teacher use of TLR brings about self-directed learning among students," the mean scores are 3.46 for Special Education and 3.40 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.73 and 0.79 respectively. The slightly higher mean score for Special Education suggests a marginally stronger belief in the role of TLR in promoting self-directed learning. The relatively high standard deviations indicate variability in how this impact is perceived, reflecting differences in experiences or opinions on the effectiveness of TLR in fostering independent learning.

The statement "Teacher use of TLR is to encourage students to look carefully in learning" shows mean scores of 3.31 for Special Education and 3.27 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.75 and 0.78 respectively. The marginally higher mean score for Special Education suggests a somewhat greater emphasis on using TLR to promote careful observation and attention. Both fields recognize the importance of TLR in encouraging detailed examination, though the data indicate slight differences in how this is emphasized.

For "Teacher use of TLR is to help students confront their thinking that is correct scientific knowledge," the mean scores are 3.23 for Special Education and 3.28 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.72 and 0.73 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies indicates a marginally stronger belief in the role of TLR in challenging students' scientific

understanding. Both fields agree on the importance of TLR in addressing misconceptions, but the data suggest some variability in how this role is perceived.

Regarding "Teacher use of TLR is to meet students' needs in a lesson," the mean scores are 3.38 for Special Education and 3.39 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.72 and 0.75 respectively. The similar means reflect a shared understanding of the role of TLR in addressing student needs. The comparable standard deviations suggest that both fields generally agree on the importance of TLR in meeting diverse needs, though there is some variability in experiences.

Finally, the item "Teacher use of TLR is to ensure an improved student's performance" has mean scores of 3.46 for Special Education and 3.44 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.73 and 0.74 respectively. The slightly higher mean score for Special Education indicates a marginally stronger belief in the potential of TLR to enhance student performance. The similar standard deviations reflect a general consensus on the role of TLR in improving outcomes, with some variability in how this effect is experienced.

4.4.1 $H_0$2: *There is no significant difference in the preparation preservice teachers receive on the selection and use of appropriate teaching and learning resources between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.*

Table 4.5 analyzes and compares the preparation of SPECIAL EDUCATION (Special Education) and COMMUNITY-BASED REHABILITATION AND DISABILITY STUDIES (Community-Based Rehabilitation and Disability Studies) preservice teachers in using TLRs. The analysis is based on responses from 25 questionnaire items with a maximum score of 4. Key statistical metrics include the mean, mean difference, standard deviation, variance, p-value, and z-value.

Table 4.5

Inferential statistics on the selection and use of appropriate TLRs between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers

Groups	Number of Questionnaire items	Mean (Max =4)	Mean Difference	Standard Deviation	Variance	P-Value	Z-Value	Remarks
Special Education	25	3.33		0.176	0.031		-0.662	Not Significant
Community-Based Rehabilitation and Disability Studies	25	3.36	0.03	0.147	0.022	0.254		

P > 0.05 = Not Significant, P< 0.05 = Significant

From table 4.5, The mean scores for Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers are 3.33 and 3.36, respectively. This slight difference in means (0.03) suggests that, on average, Community-Based Rehabilitation and Disability Studies preservice teachers scored higher than Special Education preservice teachers in terms of their preparation to use appropriate teaching and learning resources in an inclusive classroom. Although the mean difference is small, it suggests a slight edge for Community-Based Rehabilitation and Disability Studies preservice teachers.

The standard deviation for Special Education preservice teachers is 0.176, while for Community-Based Rehabilitation and Disability Studies preservice teachers, it is 0.147. These values indicate that Special Education preservice teachers' scores are slightly more dispersed compared to Community-Based Rehabilitation and Disability Studies preservice teachers. Variance, which is the square of the standard deviation, further supports this observation, with Special Education having a variance of 0.031 and Community-Based Rehabilitation and Disability Studies having a variance of 0.022. This suggests that Community-Based Rehabilitation and Disability Studies preservice teachers are more consistent in their preparation for using teaching and learning resources.

To determine the significance of the mean difference, the p-value and z-value were examined. The p-value of 0.254 is greater than the commonly accepted significance level of 0.05, indicating that the observed difference in mean scores is not statistically significant.

The z-value of -0.662 measured the number of standard deviations the observed mean difference is from the expected mean difference under the null hypothesis. For the results to be considered statistically significant at the 95% confidence level, the z-value should typically be greater than 1.96 or less than -1.96. Since the z-value falls within the range of -1.96 to 1.96, it supports the conclusion that the difference is not statistically significant.

Based on the analysis, the null hypothesis is accepted, indicating that there is no statistically significant difference in the preparation of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in using appropriate teaching and learning resources in an inclusive classroom. Both the p-value and z-value suggest that the observed differences could likely be due to random variation rather than a true difference in preparation levels.

4.5 Discussion-Research Question Two

analyzing the findings drawn from the research (as shown in Table 4.2) reveals a common pattern among the preservice teachers: Both groups have received training in the selection and application of relevant teaching and learning resources. Notably, a key component of their training became the use of Teaching and Learning Resources (TLR) as an alternative to their textbooks. The results shows that preservice teachers view TLR as a way to encourage students' interest during lessons as well as an additional resource. This result is in complete agreement with the viewpoint presented by Hemler (2020), which highlights the significance of teachers' comprehension of the curriculum and their capacity to select materials in a way that best supports the intended learning objectives. The high percentage of assertions regarding the use

of TLR to create two-way communication between educators and students highlights the training's practical relevance even more. This tactic, according to Hemler (2020), is essential to fostering an atmosphere in which students are attentive to the facilitator and actively involved, which improves the general effectiveness of the teaching and learning processes.

In support of these findings, the claims made by researchers like Boakye and Ampiah, 2017; Buljeta et al., 2023 gain greater significance in this study. According to their collective opinion, when teaching and learning resources are included in lessons, students are more engaged and the teaching and learning resources expand their knowledge. The availability of these resources guarantees that students are suitably challenged to create their own knowledge along with facilitating effective communication. This multifaceted approach to pedagogy is in line with current paradigms in education, where the development of personalized understanding and active student participation are recognized as vital elements of an engaging and productive learning environment.

The data's key findings highlight the fact that both groups of preservice teachers have received training in using Teaching and Learning Resources (TLR) in group instruction and there is no significant difference between Special Education and Community-Based Rehabilitation And Disability Studies. The purpose of this preparation is to give students the chance to help their peers learn. This is consistent with the findings of Lopez et al.'s (2020) study, which highlights the necessity of using teaching and learning resources in group settings appropriately, taking into account the audience and the context.

However, the data also shows that preservice teachers significantly underuse TLR, which creates problems with inefficient classroom management. Mensah (2023) supports this finding, arguing that in order for educators to effectively modify and utilize these resources to promote inclusivity and classroom engagement, they should receive thorough training.

Preservice teachers are found to employ TLR for diverse purposes, encompassing the assessment of student learning, provision of feedback, encouragement of collaboration among students, and selection of materials tailored to students' developmental levels. Additionally, TLR usage is directed towards sustaining students' interest, facilitating post-usage discussions, and aiding students in predicting outcomes before exploration. Furthermore, teachers leverage TLR to foster critical thinking, enabling students to explore subject matter, and monitoring interactions to enhance learning flexibility. Yirenkyi's (2020) research supports the idea that critical thinking skills empower teachers to make informed decisions in selecting and utilizing teaching and learning resources, thereby enhancing the overall educational experience. Developing students' self-confidence, encouraging self-directed learning, and encouraging careful observation and categorization of information are the main objectives of using TLR. Buljeta et al. (2022) emphasize the value of teamwork in an inclusive classroom and stress the necessity for teachers to be proficient in the use of teaching and learning resources in order to improve student outcomes. Kester (2021), aligns that the preservice teachers' training program should be carefully planned to address various issues relating to teaching and learning materials. The training should begin with a thorough examination of the various categories of teaching and learning resources. A wide range of materials, including textbooks, multimedia, visual aids, manipulatives, and digital tools, should be introduced to preservice teachers. Preservice teachers should select teaching and learning resources to encourage learners to understand the particular advantages and restrictions of each piece of content in various teaching contexts.

It is evident from the results that some preservice teachers are not adequately prepared to choose and use appropriate teaching and learning resources. This observation is consistent with Mensah's (2023) claim that the overwhelming quantity of contemporary resources used does not determine how effective a teacher is at using relevant teaching and learning resources.

Rather, the key to success is the teacher's skillful preparation, which allows them to motivate students to learn, develop a variety of abilities, and adopt positive attitudes and values.

According to Mensah (2023), training teachers is essential to creating an atmosphere in which the application of resources for teaching and learning transcends simple technological improvements. The emphasis in present day is on empowering teachers with the resources they need to strategically use resources, match those resources to pedagogical objectives, and support students' holistic educational experiences. As such, emphasis is placed not only on the accessibility of resources but also on the ability of educators to make effective use of them in order to foster all-around student development. (Takai, 2020) posit that, it will be easier for preservice teachers who are skilled at evaluating these resources to incorporate cutting-edge tools into their teaching methods, enhancing their classrooms with dynamic and interactive learning experiences

The analysis and discussion of the data on preservice teachers on Community-Based Rehabilitation and Disability Studies and Special Education reveal significant insights into their preparedness regarding the use of Teaching and Learning Materials (TLRs). Both groups demonstrate a shared recognition of the importance of TLRs in enhancing student engagement, fostering curiosity, and supporting collaborative learning. However, the data indicate some nuanced differences between the two groups.

4.6 Research Question 3: What preparation do preservice teachers receive on adapting teaching strategies in an Inclusive class?

H_03: *There is no statistically significant difference in the preparation preservice teachers receive on the teaching strategies in an inclusive classroom between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.*

Table 4.6 shows the comparison between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparation for inclusive teaching strategies. This comparison reveals insightful distinctions and similarities in their approaches to adapting teaching strategies in an inclusive classroom. The table provides information on their mean scores for individual items, highlighting areas of agreement and divergence in their readiness to implement inclusive teaching practices. As a result, the higher the mean score, the higher the level of agreement with their preparation to adapt teaching strategies in an inclusive class.

Table 4.6

Comparison of preservice teachers' preparation on teaching strategies

Premise	Special Education		Community-Based Rehabilitation and Disability Studies	
	Mean	Standard Deviation	Mean	Standard Deviation
Before the start of the class, pre-teach challenging terminology and topics.	3.22	0.80	3.28	0.82
Use Task differentiation.	3.3	0.71	3.34	0.72
Provide frequent comments to encourage sluggish learners to participate actively in class.	3.27	0.84	3.32	0.84
Encourage peer teaching to ensure that no student falls behind in class.	3.63	0.65	3.6	0.72
Encourage learners to work together to study.	3.67	0.65	3.58	0.77
Use several assessment strategies to help slow learners understand.	3.56	0.69	3.51	0.79
Accept alternative methods of information sharing.	3.42	0.64	3.49	0.60
Use a variety of memorization strategies to aid in the retention of data by slow learners. Use of mnemonics, for example.	3.35	0.65	3.33	0.76
Use task analysis to ensure that all pupils grasp what is being taught.	3.44	0.79	3.42	0.79
Differentiating tasks in their class delivery to ensure that all learners achieve their learning objectives.	3.48	0.58	3.49	0.62
Take into account individual learners' capabilities when delivering lessons to ensure that all learners benefit from the teaching and learning process.	3.52	0.65	3.54	0.67
Use bold writing to help persons with low vision.	3.64	0.65	3.64	0.63
Tailor the content and instructional method to meet the requirements of individual learners in order for them to attain the goals set out in the authorized instructional strategies.	3.46	0.62	3.47	0.63
Provide work completion deadlines that are flexible.	3.26	0.78	3.38	0.74
Encourage pupils to choose their own activities to keep their interest in class alive.	3.28	0.75	3.26	0.81

Source: *Author's computation from field Data, 2024*

From the table 4.6, the mean scores for "Before the start of the class, pre-teach challenging terminology and topics" are 3.22 for Special Education and 3.28 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.80 and 0.82, respectively. The higher mean score in Community-Based Rehabilitation and Disability Studies indicates a slightly stronger belief in the importance of pre-teaching challenging content. Both fields recognize the value of this practice in preparing students for new material, though the data suggest that Community-Based Rehabilitation and Disability Studies practitioners might

emphasize this strategy slightly more. The standard deviations show moderate variability in responses, reflecting some differences in how this practice is valued or applied.

For the statement “Use Task differentiation,” the mean scores are 3.30 for Special Education and 3.34 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.71 and 0.72 respectively. The marginally higher mean score for Community-Based Rehabilitation and Disability Studies suggests a slightly greater emphasis on task differentiation. This practice is important for addressing varying student abilities and ensuring that all learners can engage with the material effectively. The similar standard deviations indicate that both fields broadly agree on the importance of task differentiation, though there is some variability in how this is implemented.

The item “Provide frequent comments to encourage sluggish learners to participate actively in class” shows mean scores of 3.27 for Special Education and 3.32 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.83 and 0.84 respectively. The higher mean score for Community-Based Rehabilitation and Disability Studies indicates a somewhat stronger belief in the role of frequent feedback in motivating less engaged learners. The standard deviations suggest some variability in how this practice is perceived, reflecting differences in the perceived effectiveness of feedback in encouraging active participation.

Regarding “Encourage peer teaching to ensure that no student falls behind in class,” the mean scores are 3.63 for Special Education and 3.60 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.65 and 0.72 respectively. The slightly higher mean score for SPECIAL EDUCATION reflects a stronger emphasis on peer teaching as a strategy for inclusive education. Both fields agree on the importance of peer teaching in supporting all students, though the data suggest that Special Education practitioners may place

a slightly higher value on this approach. The standard deviations indicate moderate agreement on the effectiveness of peer teaching.

For “Encourage learners to work together to study,” the mean scores are 3.67 for Special Education and 3.58 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.65 and 0.77 respectively. The higher mean score for Special Education indicates a greater emphasis on collaborative study as a means of fostering learning. Both fields recognize the benefits of group work, though the data suggest that Special Education may value this strategy slightly more. The standard deviations reveal some variability in responses, reflecting different experiences or opinions on the effectiveness of collaborative learning.

The statement “Use several assessment strategies to help slow learners understand” has mean scores of 3.56 for Special Education and 3.51 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.69 and 0.79 respectively. The higher mean score for Special Education reflects a marginally stronger belief in the necessity of diverse assessment strategies for supporting slower learners. Both fields agree on the importance of using varied assessment methods, though the data suggest that Special Education practitioners may emphasize this practice slightly more. The standard deviations indicate some variability in how this approach is perceived and applied.

The item “Accept alternative methods of information sharing” shows mean scores of 3.42 for Special Education and 3.49 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.64 and 0.60 respectively. The slightly higher mean score for Community-Based Rehabilitation and Disability Studies suggests a somewhat stronger emphasis on using diverse methods for sharing information. Both fields recognize the importance of adapting information delivery methods to meet diverse needs, though the data indicate that Community-Based Rehabilitation and Disability Studies practitioners might place

a marginally higher value on this approach. The standard deviations reveal a moderate agreement on the importance of this practice.

For "Use a variety of memorization strategies to aid in the retention of data by slow learners," including mnemonics, the mean scores are 3.35 for Special Education and 3.33 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.646 and 0.757 respectively. The marginally higher mean score for Special Education reflects a slightly stronger belief in the effectiveness of varied memorization strategies. Both fields acknowledge the value of such strategies in supporting slow learners, though there is some variability in how these strategies are perceived. The higher standard deviation for Community-Based Rehabilitation and Disability Studies indicates more variability in opinions on the effectiveness of memorization techniques.

The statement "Use task analysis to ensure that all pupils grasp what is being taught" has mean scores of 3.44 for Special Education and 3.42 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.79 and 0.79 respectively. The slightly higher mean score for Special Education suggests a marginally greater emphasis on task analysis. Both fields agree on the importance of breaking down tasks to ensure comprehension, with similar standard deviations indicating a shared understanding of this approach.

Regarding "Differentiating tasks in their class delivery to ensure that all learners achieve their learning objectives," the mean scores are 3.48 for Special Education and 3.49 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.58 and 0.62 respectively. The comparable mean scores reflect a shared belief in the importance of task differentiation to meet diverse learning objectives. The similar standard deviations suggest a common understanding of the value of this practice in achieving educational goals.

The mean scores for the item “Take into account individual learners' capabilities when delivering lessons to ensure that all learners benefit from the teaching and learning process” are 3.52 for Special Education and 3.54 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.65 and 0.67, respectively. These close mean values suggest a consensus on the importance of considering individual capabilities in lesson delivery. The similar standard deviations indicate that there is a relatively uniform perception of this practice within both fields. This reflects a shared commitment to inclusivity, emphasizing that both Special Education and Community-Based Rehabilitation and Disability Studies recognize the necessity of adjusting teaching methods to meet diverse learner needs.

The item “Use bold writing to help persons with low vision” received a mean score of 3.64 for both Special Education and Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.65 and 0.63, respectively. The identical mean scores affirm a unified approach in acknowledging the significance of visual aids for students with low vision. The slight variation in standard deviations, while minimal, suggests a marginal difference in the perceived importance or implementation of this strategy, yet the overall agreement highlights a common practice in making learning materials accessible.

For the item “Tailor the content and instructional method to meet the requirements of individual learners in order for them to attain the goals set out in the authorized instructional strategies,” the mean scores are 3.46 for Special Education and 3.47 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.62 and 0.63, respectively. The closely aligned means reflect a shared recognition of the need for customization in instructional methods. The minimal differences in the standard deviations suggest that practitioners in both fields generally agree on the importance of tailoring content to support individualized learning goals, although there may be slight variations in how this is applied in practice.

The data for “Provide work completion deadlines that are flexible” shows mean scores of 3.26 for Special Education and 3.38 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.78 and 0.74, respectively. The lower mean scores for this item indicate a less pronounced agreement on the necessity of flexible deadlines compared to other strategies. The higher standard deviation in Special Education suggests a wider range of opinions on this practice, possibly reflecting varying levels of emphasis placed on flexibility in deadlines. This disparity highlights a potential area for further exploration into how flexibility is integrated into educational settings and its perceived impact on student outcomes.

Lastly, the mean scores for “Encourage pupils to choose their own activities to keep their interest in class alive” are 3.28 for Special Education and 3.26 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.75 and 0.81, respectively. The close mean values indicate a shared belief in the value of student choice in maintaining engagement, though the higher standard deviation in Community-Based Rehabilitation and Disability Studies suggests a greater variability in how this approach is perceived or implemented. This variability might point to differences in how autonomy is fostered in educational settings or how it is balanced with other instructional priorities.

In sum, the analysis of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparedness to use bold writing for persons with low vision, tailor content and instructional methods to individual learners, provide flexible work completion deadlines, and encourage pupils to choose their own activities reveals a consistent level of moderate to high preparedness across both groups. Their mean scores indicate a strong understanding of the importance of these strategies in creating an inclusive classroom environment.

4.6.1 H_03: *There is no statistically significant difference in the preparation preservice teachers receive on the teaching strategies in an inclusive classroom between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.*

The table 4.7 presents a detailed comparison of preservice teachers' preparation on teaching strategies between Special Education and Community-Based Rehabilitation and Disability Studies programs. This analysis aims to evaluate their readiness to employ effective teaching strategies in inclusive classrooms. The analysis utilizes responses from 15 questionnaire items, each with a maximum score of 4. Key statistical metrics considered in this analysis are the mean, mean difference, standard deviation, variance, p-value, and z-value.

Table 4.7

Inferential statistics on the teaching strategies between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers

Groups	Number of Questionnaire items	Mean (Max= 4)	Mean Difference	Standard Deviation	Variance	P-Value	Z-Value	Remarks
Special Education	15	3.43	0.01	0.150	0.022	0.420	-0.201	Not Significant
Community-Based Rehabilitation and Disability Studies	15	3.44		0.121	0.015			

P > 0.05 = Not Significant, P< 0.05 = Significant

From the table 4.7, Special Education preservice teachers have a mean score of 3.43, while Community-Based Rehabilitation and Disability Studies preservice teachers have a slightly higher mean score of 3.44. The small mean difference of 0.01 indicates that both groups are almost equally prepared to implement inclusive teaching strategies. These mean scores suggest that both Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers generally agree that they are well-prepared to use appropriate teaching strategies for inclusive education.

The standard deviation for Special Education preservice teachers is 0.15, compared to 0.121 for Community-Based Rehabilitation and Disability Studies preservice teachers. This indicates that the responses from Special Education preservice teachers are more spread out around the mean compared to those from Community-Based Rehabilitation and Disability Studies preservice teachers. In other words, there is slightly more variability in how Special Education preservice teachers perceive their preparedness.

The variance, which is the square of the standard deviation, further illustrates this point. Special Education preservice teachers have a variance of 0.022, while Community-Based Rehabilitation and Disability Studies preservice teachers have a lower variance of 0.015. This supports the observation that Special Education responses are more varied, whereas Community-Based Rehabilitation and Disability Studies responses are more consistent.

The p-value for the comparison is 0.420, which is greater than the common significance level of 0.05. This indicates that the difference in mean scores between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers is not statistically significant. The z-value of -0.201, which falls within the range of -1.96 to 1.96 for a 95% confidence interval, also suggests that the observed difference is not statistically significant.

The analysis shows that there is no significant difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in terms of their preparation for using teaching strategies in inclusive classrooms, hence the study accepts the null hypothesis three. Both groups appear to be equally ready to adapt their teaching methods to meet the diverse needs of their students.

4.8 Discussion- Research Question Three

The analysis of the data presented in Table 4.4 highlights a noteworthy trend among the preservice teachers (Special Education and Community-Based Rehabilitation and Disability

Studies), indicating a substantial level of preparation in comprehending diverse teaching strategies suitable for inclusive classrooms. These strategies encompass a spectrum of approaches such as pre-teaching challenging terminologies and topics, task differentiation, the provision of frequent feedback to support slower learners, the promotion of peer teaching, fostering collaborative study environments, utilization of various assessment strategies for learners facing difficulties, acceptance of alternative information-sharing methods, incorporation of diverse memorization techniques (e.g., mnemonics), implementation of task analysis to ensure comprehensive understanding among all students, differentiation of tasks in class delivery for the attainment of learning objectives, consideration of individual learner capabilities in lesson delivery, use of bold writing to aid individuals with low vision, customization of content and instructional methods to meet individual needs, allowance for flexible completion deadlines, and encouragement of student autonomy in activity selection.

These results corroborate the claims made by Boadu (2020), who contended that it is becoming more and more necessary for preservice teachers to possess the abilities to implement a variety of teaching strategies in inclusive classrooms. Boadu underlined again how critical it is to train future teachers to effectively interact with a diverse student body. Notably, in line with Boadu's viewpoint, differentiated instruction becomes a popular teaching strategy. The findings of the study align with the perspectives of Beard (2017), who emphasized the need for preservice teachers to identify and accommodate variations in the interests, skill levels, and learning preferences of their students. Beard (2017), maintained that training in differentiated instruction is a crucial component of this preparation, arguing that preservice teachers who receive this kind of instruction are more likely to successfully apply these strategies in the classroom. The study's findings essentially highlight the critical role that preservice teacher preparation plays in promoting inclusive, efficient teaching methods that meet the varied needs of students.

Moreover, this is in complete harmony with the findings of Lee (2023), which highlighted the necessity of applying Universal Design for Learning (UDL) in order to achieve successful teaching and learning outcomes. In order to address the diverse needs of all learners within an inclusive educational framework, UDL prioritizes diverse forms of representation, expression, and engagement. Lee's study highlights the importance of this approach. One of the most important things to consider when building an inclusive learning environment that can accommodate different learning styles and abilities is the adoption of UDL principles. Expanding upon this viewpoint, Lee and Dahinten (2021) add to the conversation by emphasizing that preservice teachers who participate in UDL training demonstrate a favorable disposition toward inclusive education. These educators are also skilled at using a variety of instructional strategies in the classroom, proving their ability to support and engage students with a range of learning needs. The results of Lee and Dahinten (2021)'s study highlight how UDL training has a transformative effect on preservice teachers, presenting them as capable and driven participants in inclusive education.

The integration of the current study's findings with the perspectives offered by Lee (2023) and Lee & Dahinten (2021) highlights the significant role that UDL plays in forming an all-encompassing and inclusive approach to teaching and learning. In order to create an educational environment that is responsive to the individual needs of every learner and promotes a more equitable and successful educational experience, UDL places a strong emphasis on a variety of forms of representation, expression, and engagement.

Examining the data, however, showed a significant difference between a portion of preservice teachers who disagreed with the use of different teaching techniques designed especially for inclusive classroom environments. These opposing views included misgivings about the use of task analysis, peer teaching, differentiated tasks, group learning, and alternative ways of disseminating information in addition to Universal Design for Learning (UDL). This opposing

viewpoint is important to highlight because it sheds light on possible concerns or difficulties that the preservice teacher cohort may have with implementing diverse strategies in inclusive education. In contrast to these opposing viewpoints, Henrickson (2020) claimed that supporting group teaching and learning strategies is essential to fostering success for every student in the classroom. Henrickson (2020) promoted a cooperative approach to teaching, stressing the critical role that teachers play in working together with students to create a supportive learning environment. This viewpoint highlights the significance of adopting collaborative methods in education and contrasts with the resistance seen among certain preservice teachers.

Furthermore, Sikanku (2018) agrees that in order to promote positive interpersonal relationships among students, teachers should utilize a variety of strategies, including group projects, extracurricular activities, and collaborative learning. Sikanku (2018) also highlights the possibility that teachers will need more training if these tactics are not implemented. This viewpoint supports the idea that a variety of teaching strategies helps students develop strong interpersonal skills in addition to academic success.

In conclusion, Henrickson (2020) and Sikanku (2018) offer counterarguments, highlighting the significance of collaborative and diverse instructional methods in fostering both academic achievement and positive social interactions among students, despite the preservice teachers' findings suggesting some resistance to specific inclusive teaching strategies. This difference in opinions emphasizes how difficult it can be to implement inclusive teaching methods and how additional professional development and training may be necessary to allay any concerns preservice teachers may have.

4.9 Research Question Four: What preparation do Preservice Teachers receive on Assessment Practices in an Inclusive classroom?

H_04: *There is no statistically significant difference in the preparation preservice teachers receive on assessment practices in an inclusive classroom between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.*

Table 4.8 presents a comparative analysis of the readiness of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in adapting assessment practices for an inclusive classroom. This comparison elucidates both the differences and similarities in their approaches. The table displays mean scores for individual items, indicating areas of consensus and divergence in their preparedness to implement assessment practices. A higher mean score reflects a greater level of agreement with their readiness to adapt appropriate assessment practices in an inclusive class.

Table 4.8:

Comparison of preservice teachers' preparation on Assessment practices

Premise	Special Education		Community-Based Rehabilitation and Disability Studies	
	Mean	Standard Deviation	Mean	Standard Deviation
The feedback that students receive helps them improve	3.69	0.53	3.67	0.51
Students' learning objectives should be discussed with students in ways they understand.	3.48	0.59	3.52	0.62
Students are helped to understand the learning purposes of each lesson or series of lessons.	3.37	0.58	3.43	0.60
Assessment criteria are discussed with students in ways they understand	3.43	0.60	3.42	0.70
Provide guidance to help students assess their work	3.43	0.66	3.44	0.66
Students are helped to think about how they learn best	3.39	0.63	3.41	0.69
Provide guidance to help students assess their learning.	3.47	0.61	3.48	0.67
Regularly discuss with students, ways of improving learning how to learn.	3.39	0.70	3.42	0.76
Assessment practices help students to learn independently	3.31	0.72	3.33	0.77
The main emphasis in assessments is on whether students know, understand or can-do prescribed elements of the curriculum.	3.24	0.71	3.34	0.74
Students should be given opportunities to create their questions using Bloom's taxonomy and give feedback to their peers.	3.18	0.87	3.24	0.87
The teacher can use either of assessment method in an inclusive class which may include, Diagnostic, Formative, Summative, norm-referenced, Criterion-Referenced, interim, confirmative, Ipsative and Observation Assessment.	3.38	0.63	3.42	0.64
Assessment would reveal that learners who fail regularly are lazy.	2.65	0.96	2.67	1.01
Assessment shapes and modifies on-going teaching of learners	3.33	0.72	3.39	0.71
Assessment is an accurate indicator of learners' academic progress	3.52	0.63	3.38	0.76

Source: *Author's computation from field Data, 2024*

From the table 4.8, the item "The feedback that students receive helps them improve" yields mean scores of 3.69 for Special Education and 3.67 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.53 and 0.51 respectively. These closely aligned mean scores suggest a strong consensus on the importance of feedback in facilitating student improvement. The similar standard deviations indicate that both fields generally agree

on the effectiveness of feedback, although there may be slight differences in how feedback is perceived or implemented in practice.

Regarding "Students' learning objectives should be discussed with students in ways they understand," the mean scores are 3.48 for Special Education and 3.52 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.59 and 0.62 respectively. These scores reflect a shared recognition of the need to communicate learning objectives clearly. The higher mean score for Community-Based Rehabilitation and Disability Studies suggests a slightly stronger emphasis on ensuring that students understand their learning objectives. The variation in standard deviations highlights some differences in how effectively this communication is perceived across the two fields.

For "Students are helped to understand the learning purposes of each lesson or series of lessons," the mean scores are 3.37 for Special Education and 3.43 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.58 and 0.60, respectively. The similar mean scores indicate a common understanding of the importance of clarifying learning purposes. However, the slightly higher mean for Community-Based Rehabilitation and Disability Studies suggests that this practice might be perceived as slightly more effective in supporting students' comprehension of lesson goals.

The mean scores for "Assessment criteria are discussed with students in ways they understand" are 3.43 for Special Education and 3.42 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.60 and 0.70 respectively. The close means reflect a shared belief in the importance of making assessment criteria clear to students. The higher standard deviation in Community-Based Rehabilitation and Disability Studies suggests greater variability in how this practice is perceived, potentially indicating differing levels of effectiveness or emphasis in communicating assessment criteria.

"Provide guidance to help students assess their work" shows mean scores of 3.43 for Special Education and 3.44 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.66 and 0.66 respectively. The almost identical means suggest a mutual recognition of the value of providing guidance for self-assessment. The similar standard deviations indicate a consistent view across both fields on the role of guidance in helping students evaluate their own work.

The item "Students are helped to think about how they learn best" has mean scores of 3.39 for Special Education and 3.41 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.63 and 0.69 respectively. The close means highlight a shared emphasis on supporting students in reflecting on their learning preferences. The slightly higher standard deviation in Community-Based Rehabilitation and Disability Studies suggests a greater variation in perceptions of how effectively this support is provided.

For "Provide guidance to help students assess their learning," the mean scores are 3.47 for Special Education and 3.48 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.61 and 0.67 respectively. The closely aligned means indicate a general agreement on the importance of guiding students in assessing their own learning. The minimal difference in standard deviations suggests that both fields similarly value this practice.

The mean scores for "Regularly discuss with students' ways of improving learning how to learn" are 3.39 for Special Education and 3.42 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.70 and 0.76 respectively. The similar means reflect a common belief in the value of discussing strategies for improving learning. The higher standard deviation in Community-Based Rehabilitation and Disability Studies suggests a wider range of opinions on this practice, indicating varying levels of emphasis on regular discussions about learning strategies.

"Assessment practices help students to learn independently" shows mean scores of 3.31 for Special Education and 3.33 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.72 and 0.77 respectively. The close means reflect a shared view on the role of assessment practices in promoting independent learning. The higher standard deviation in Community-Based Rehabilitation and Disability Studies indicates a broader range of views on how effectively assessment practices support independent learning.

The item "The main emphasis in assessments is on whether students know, understand or can-do prescribed elements of the curriculum" has mean scores of 3.24 for Special Education and 3.34 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.71 and 0.74, respectively. The relatively close mean scores suggest that both fields recognize the importance of assessing students' knowledge, understanding, and application of curriculum elements. However, the higher mean score for Community-Based Rehabilitation and Disability Studies indicates a slightly stronger emphasis on these aspects, which may reflect a greater focus on ensuring that assessments align closely with curriculum objectives. The standard deviations are similar, indicating a comparable range of opinions on this practice within both fields.

For the item "Students should be given opportunities to create their questions using Bloom's taxonomy and give feedback to their peers," the mean scores are 3.18 for Special Education and 3.24 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.87 and 0.87 respectively. The close mean scores suggest that both Special Education and Community-Based Rehabilitation and Disability Studies value the incorporation of Bloom's taxonomy in fostering higher-order thinking skills and peer feedback. However, the lower mean scores indicate that this practice may not be as widely emphasized or implemented. The similar standard deviations suggest a consistent view on the importance of this approach, although its practical application might vary.

The item “The teacher can use either of assessment methods in an inclusive class, which may include Diagnostic, Formative, Summative, norm-referenced, Criterion-Referenced, interim, confirmative, Ipsative, and Observation Assessment” has mean scores of 3.38 for Special Education and 3.42 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.63 and 0.64 respectively. These closely aligned means reflect a shared understanding of the diverse assessment methods available and their applicability in inclusive classrooms. The slightly higher mean for Community-Based Rehabilitation and Disability Studies suggests a marginally stronger recognition of the variety of assessment methods and their potential uses. The similar standard deviations indicate that both fields generally agree on the importance of employing multiple assessment approaches to address diverse learner needs.

For the item “Assessment would reveal that learners who fail regularly are lazy,” the mean scores are notably low, at 2.65 for Special Education and 2.67 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.96 and 1.01 respectively. These low means indicate a consensus that assessment should not be used to label students who struggle as lazy. The high standard deviations reflect considerable variability in opinions, suggesting that while there is a general agreement against this perspective, there are differing views on how assessment results should be interpreted and addressed.

The item “Assessment shapes and modifies ongoing teaching of learners” shows mean scores of 3.33 for Special Education and 3.39 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.72 and 0.71 respectively. These closely aligned means suggest that both fields recognize the role of assessment in informing and adjusting teaching practices. The slightly higher mean for Community-Based Rehabilitation and Disability Studies indicates a marginally stronger belief in the formative role of assessment in shaping instructional approaches. The similar standard deviations suggest a common understanding of the importance of using assessment data to enhance teaching effectiveness.

Lastly, “Assessment is an accurate indicator of learners’ academic progress” has mean scores of 3.52 for Special Education and 3.38 for Community-Based Rehabilitation and Disability Studies, with standard deviations of 0.63 and 0.76 respectively. The higher mean score for Special Education indicates a stronger belief in the accuracy of assessments in reflecting students’ academic progress. The higher standard deviation in Community-Based Rehabilitation and Disability Studies suggests greater variability in perceptions of how well assessments capture students' progress, which may point to differences in assessment practices or expectations.

$H_0$4: *There is no statistically significant difference in the preparation preservice teachers receive on assessment practices in an inclusive classroom between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.*

The table compares the preparedness of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in terms of assessment practices. Each group responded to 15 questionnaire items, with a maximum score of 4 indicating full agreement with the statements regarding their readiness for implementing assessment practices in an inclusive classroom. Key statistical metrics considered in this analysis are the mean, mean difference, standard deviation, variance, p-value, and z-value.

Table 4.9

Inferential statistics on assessment practices between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers

Groups	Number of Questionnaire items	Mean (Max=4)	Mean Difference	Standard Deviation	Variance	P-Value	Z-Value	Remarks
Special Education	15	3.35		0.228	0.052			Not Significant
Community-Based Rehabilitation and Disability Studies	15	3.37	0.019	0.216	0.047	0.408	-0.232	

P > 0.05 = Not Significant, P< 0.05 = Significant

From the table, the mean score for Special Education preservice teachers is 3.35, indicating a high level of agreement with statements regarding their preparedness for implementing assessment practices in an inclusive classroom. On the other hand, Community-Based Rehabilitation and Disability Studies preservice teachers have a slightly higher mean score of 3.37, suggesting a slightly stronger agreement with the same statements. Despite this slight difference of 0.019, which could be considered negligible, both groups are similarly prepared regarding assessment practices.

The standard deviation for Special Education is 0.228, indicating a relatively high degree of variability in responses within the group. This suggests that while the average preparedness level is high, there is a wide range of responses among Special Education preservice teachers, with some indicating lower preparedness and others indicating higher preparedness. For Community-Based Rehabilitation and Disability Studies, the standard deviation is slightly lower at 0.216, indicating slightly less variability in responses compared to Special Education. This implies that while both groups are similarly prepared on average, there may be more variability in the preparedness levels among Special Education preservice teachers.

The variance, which is the square of the standard deviation, is 0.052 for Special Education and 0.047 for Community-Based Rehabilitation and Disability Studies. This indicates that there is more variability in the responses of Special Education preservice teachers compared to Community-Based Rehabilitation and Disability Studies preservice teachers. In other words, the responses of Special Education preservice teachers are more spread-out Community-Based Rehabilitation and Disability Studies preservice teachers.

The p-value, which measures the significance of the mean difference between the two groups, is 0.408. Since this value is greater than the common significance level of 0.05, the difference in mean scores between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers is not statistically significant. This suggests that any observed differences in their preparedness for assessment practices could be due to random variation rather than a true difference in readiness.

The z-value, which measures the deviation of the mean difference from the null hypothesis in terms of standard errors, is -0.232. This value falls within the range that would indicate a lack of statistical significance, further supporting the conclusion that the difference in mean scores between the two groups is not significant.

In conclusion, the analysis indicates that statistically, there is no significance difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparation on assessment practices in an inclusive classroom. While there may be some variability within each group, the overall readiness of the two groups does not significantly differ. This suggest that, the null hypothesis is accepted.

4.10 Discussion- Research Question Four

Notable findings emerged from the thorough examination of preservice teachers' readiness for assessment practices in an inclusive classroom, as shown in Table 4.5. A sizable majority of

preservice teachers agreed on a number of essential points pertaining to useful assessment techniques used in the context of inclusive education.

First, both groups of preservice teachers generally agreed that giving students constructive criticism greatly aids in their development. A consensus was reached that it was essential to explain assessment criteria in a way that students could understand, help them comprehend the learning objectives of each lesson or set of lessons, and articulate learning objectives in an approachable way. This is consistent with the argument made by Peters and Romero (2019), who stated that, preservice teachers ought to be provided with the required training on how to create and distribute learning objectives to facilitate effective assessment in a way that helps students comprehend the goal of learning and then get ready for the test. They further argued that they ought to be informed about how to create reliable, accurate assessments that are understandable and accessible to students. They should be able to design assessment tasks, scoring guidelines, and evaluation criteria.

The results indicate that preservice teachers understand the value of assisting students with self-evaluation and learning narratives in order to raise awareness of the most effective teaching strategies. This involves encouraging conversations on methods for enhancing learning-how-to-learn and utilizing narrative assessment. Preservice teachers generally believe that assessment procedures play a key role in encouraging students to learn on their own. These results are consistent with Addai (2022) viewpoint, which highlights the importance of learning stories as a kind of evaluation. Learning stories entail the use of narratives to chronicle a child's educational journey, offering a unique and thorough viewpoint on their growth and accomplishments. In essence, preservice teachers' awareness of and adoption of these kinds of assessment practices are consistent with the notion that assessment is a potent instrument for comprehending and promoting individualized learning experiences.

More so, the results showed that preservice teachers placed a common emphasis on evaluating students' abilities to apply curriculum components in addition to their knowledge and comprehension. There was consensus regarding the significance of giving students the chance to create questions utilizing Bloom's taxonomy and motivating them to offer feedback to their classmates. This emphasis points to a dedication to creating a cooperative and student-driven learning environment for assessment. These procedures are in line with the findings of Abdulai and Carvajal (2023) research, which highlighted the critical role preservice teachers play in helping students understand the importance of giving constructive criticism and feedback. The researchers came to the conclusion that preservice teachers ought to be prepared to provide timely, thorough, and useful feedback that identifies both their strong points and their areas for improvement. The study emphasized the significance of providing preservice teachers with guidance on equitable and uniform grading practices, which promotes a cooperative learning environment between the educator and the student. These results, along with Abdulai and Carvajal's research, essentially highlight the importance of collaborative assessment methods and efficient feedback in the learning process.

Most importantly, preservice teachers showed that they were knowledgeable about a wide range of assessment techniques that can be used in inclusive classrooms, including formative, summative, norm-referenced, criterion-referenced, interim, confirmative, ipsative, and observation assessments. This acknowledgement highlights their comprehension of the various resources available to meet the various needs of students in inclusive learning environments. This viewpoint is in line with Johnson (2015) arguments for a deliberate approach to assessment that takes into account questions like: What is the intended assessment, why is it being conducted, and for whom? Prioritizing the choice of assessment method whether formative or summative, norm-referenced or criterion-referenced, self-assessment or peer assessment should come before deciding on a norm. Because of the flexibility provided by this

strategic decision-making, standardized assessment instruments can be used for formative outcomes in some situations and summative outcomes in others. Accordingly, Nkomo and Charamba (2022) stressed the need of providing preservice teachers with extensive training in order to ensure that they have a thorough understanding of the subject matter and can administer assessments effectively in order to meet the diverse learning needs of students in inclusive classrooms.

Fascinatingly, the research results showed that preservice teachers generally understood that persistent assessment failures could result from a variety of factors other than just lazy students. Furthermore, they all agreed on the dynamic interaction between assessment and instruction, understanding that assessment helps to mold and modify continuing teaching strategies in order to better meet the needs of different students. This viewpoint is consistent with the claims made by Bourke et al. (2018), who support the use of a range of assessment methods and resources in preservice teachers' training in Ghanaian classrooms. They contend that this varied toolkit can greatly alter teachers' ongoing instructional strategies and add to a more thorough narrative of student learning, helping students to understand that failure is not always a sign of laziness. The researchers further emphasize that teachers can effectively support and document the learning of students with high needs by leveraging a variety of assessment tools in the classroom setting.

On the other hand, some preservice teachers don't seem ready for inclusive classroom assessment methods. Significant disagreement exists among certain individuals with respect to the implementation of differentiated assessment methods, which include formative, summative, norm-referenced, criterion-referenced, interim, confirmative, ipsative, and observation assessments. In contrast, Volante (2010) argues that preservice teachers or educators need to be trained in the use of diverse assessment methods in order to implement effective inclusive assessment practices. These techniques are essential for accurately

representing the learner and learning style within the various theoretical models influencing the integrated assessment strategies. He further contended that in order to accurately model a learner's progress and learning preferences in accordance with various theoretical frameworks, a thorough understanding and application of these assessment tools are imperative.

4.11 Conclusion

In conclusion, both groups exhibit strong preparedness, preservice teachers in the Special Education program display slightly higher levels of strong agreement in certain areas, such as the integration of feedback and understanding of learning objectives. Conversely, Community-Based Rehabilitation and Disability Studies preservice teachers show a higher level of strong agreement in areas like discussing assessment criteria and providing guidance for self-assessment, suggesting nuanced differences in emphasis and approach between the two programs. The gender distribution data indicate a male predominance in the Special Education program and a female predominance in the Community-Based Rehabilitation and Disability Studies program. Despite the overall positive findings, a marginal number of preservice teachers still feel unprepared.

4.12 Application of the Shulman's Pedagogical Content Knowledge (PCK) theory to the findings

The adoption of Shulman's PCK theory in this study provides a robust framework for analyzing the preparedness of preservice teachers in both Special Education and Community-Based Rehabilitation and Disability Studies programs. The theory guides the examination of how these teachers integrate their content knowledge with pedagogical strategies to create inclusive learning environments. This theory becomes especially pertinent in the context of inclusive education because it highlights how important it is to comprehend the resources in a way that makes it easier to implement teaching strategies that are appropriate for a variety of learners.

The majority of preservice teachers surveyed had a solid understanding of inclusive education, showing a positive trend. This supports Shulman's theory that good instruction requires both subject-matter expertise and pedagogical abilities to deliver that expertise in a way that meets the varied learning requirements of students in an inclusive educational setting.

References to Wanjiru (2017) point to possible gaps in preservice teachers' inclusive education knowledge and skills, which stands in contrast to the positive findings. According to Shulman's PCK theory, closing these gaps calls for a sophisticated strategy that combines subject-specific expertise with instructional techniques specially designed to meet the particular difficulties faced by inclusive classrooms. The study acknowledges the beneficial effects of the Department of Special Education and proposes that preservice teachers' exposure to inclusive education content in a variety of courses leads to a more thorough understanding. The notion that this exposure is essential for acquiring the specific knowledge and abilities needed for efficient teaching in inclusive settings is supported by Shulman's PCK theory.

The findings pertaining to Research Question two according to Shulman's theory, effective teaching necessitates a special combination of pedagogical knowledge and content knowledge relevant to the subject matter being taught. Preservice teachers have received training in the selection and application of pertinent TLRs, according to the analysis of the data. In this setting, preservice teachers possess not only a general understanding of teaching strategies but also specialized knowledge regarding the selection and application of teaching resources. The data also shows that TLRs is not being used to its full potential, which results in ineffective classroom management. According to Shulman's theory, utilizing pedagogical content knowledge effectively entails knowing when and why to use instructional materials in addition to knowing how to use them. The results validate Mensah's (2023) claim that comprehensive training is necessary for teachers to adapt and use resources in a way that fosters inclusivity and student participation.

Research Question Three's application of Shulman's PCK theory demonstrates that preservice teachers are receiving extensive training on a variety of inclusive classroom strategies. The data indicates that preservice teachers possess a solid understanding of the core content areas, as reflected in their high levels of agreement on the importance and effectiveness of various teaching strategies. This strong content knowledge base is essential for effective teaching, particularly in inclusive settings where teachers must adapt content to meet diverse learning needs.

The study finds a number of noteworthy conclusions about preservice teachers' preparedness for inclusive classroom assessment. Preservice teachers understand the value of constructive criticism and the necessity of presenting assessment criteria in a way that is understandable to students. This is consistent with Shulman's focus on incorporating instructional strategies that are specific to the needs of the students into the subject matter. According to the study, preservice teachers understand the value of clear communication and student comprehension in assessment procedures. The study does, however, highlight some disagreement among preservice teachers about how to apply differentiated assessment techniques, suggesting possible weaknesses in their preparedness for inclusive classroom assessment procedures. According to Shulman's theory, teaching effectively necessitates a thorough understanding of both pedagogical and content knowledge. Thus, focused training to improve PCK may be beneficial for preservice teachers who might be reluctant or unprepared to use a variety of assessment methods.

In summary, Shulman's PCK theory provides a strong theoretical foundation for comprehending and resolving the difficulties involved in getting preservice teachers ready for inclusive education. The theory's focus on the integration of pedagogical knowledge and content proves especially pertinent when navigating the difficulties and encouraging efficient teaching methods in inclusive classrooms.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

The main purpose of this final chapter is to review the research process in terms of the identified research objectives and questions. This evaluation is conducted to provide a brief overview of the study findings, draw important conclusions and then formulate recommendations. These recommendations are based on the insights gained from the research findings and guide future actions and considerations for the research topic.

6.1 Summary of Findings

The purpose of the study was to investigate preservice teachers' preparation towards the practice of inclusive education at the University of Education, Winneba. This study adopted a positivist research paradigm and used a systematic approach to objectively examine quantitative data related to preservice teachers' understanding, resource selection, teaching strategies, and assessment practices. This method was designed to ensure the reliability and validity of the findings.

The study used quantitative research approach and 4-point Likert scale standardized questionnaires to collect quantitative data from 320 (160 Special Education, 160 Community-Based Rehabilitation and Disability Studies) preservice teachers from the total population of 409. The research design chosen for this exploration was a comparative descriptive survey design, strategically chosen to systematically collect, present, drawing inferences and summarize data to provide a deep understanding of teacher preparation for inclusive education.

To ensure a representative sample, the study implemented a simple random sampling technique that gave each preservice teacher an equal chance to participate in the study. During the study, participants were given detailed information about the purpose of the study, written consent

was obtained, and anonymity and confidentiality were paramount. This study adhered to ethical standards and stored data securely to protect participant privacy. The research methodology was carefully designed to explore and understand preservice teachers' preparedness for inclusive education at the University of Education, Winneba while upholding the principles of reliability, validity, and ethical conduct. The following are key findings based on the research question:

6.1.1 Research Objective One: Preservice teachers' knowledge on Inclusive Education

The survey aimed to assess Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' knowledge on inclusive education, exploring different dimensions of understanding and preparation. Participants were assessed on a 4-point Likert scale questionnaire divided into four categories: strongly disagree (SD), disagree (D), agree (A), and strongly agree (SA). Using inferential statistics, specifically a z-test, I analyzed the data to determine if there was a significant difference in their knowledge levels.

The analysis revealed that there is no statistically significant difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers regarding their knowledge on Inclusive Education. The p-value obtained from the z-test was greater than the alpha level set for the study, indicating that the difference in knowledge levels between the two groups was not significant.

This finding suggests that both Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers have similar levels of knowledge on Inclusive Education. It implies that the training programs for both groups are equally effective in preparing preservice teachers for inclusive educational settings. This has important implications for teacher education programs, highlighting the need for inclusive approaches that cater to the diverse needs of students in inclusive classrooms.

6.1.2 Research Objective Two: Preservice teachers' preparation on the selection and use of appropriate Teaching and Learning Resources

The purpose of the survey was to investigate Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers' preparation on the selection and use of appropriate teaching and learning resources in an inclusive classroom. Drawing on inferential statistics, particularly employing a z-test and analyzing the associated p-values, the research sought to ascertain whether there existed a significant disparity in preparedness between the two groups regarding the selection and utilization of TLRs.

Through meticulous data collection involving a sample of 160 preservice teachers from each group, the study employed a systematic approach to evaluate their knowledge and readiness in utilizing TLRs. The z-test, a powerful statistical tool for comparing sample means, was employed to determine if any statistically significant differences existed between the two groups.

Upon conducting the z-test and computing the associated p-value, the analysis revealed that there was no statistically significant difference between the Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in their preparation concerning the selection and use of appropriate TLRs in inclusive classrooms. The obtained p-value, falling above the predetermined significance level (often set at 0.05), indicated that any observed differences in the mean scores between the groups were likely due to random variation rather than a genuine distinction in preparedness.

6.1.3 Research Objective Three: Preparation on the ability to adapt teaching strategies in an Inclusive class

An examination of the preparation of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers to adapt teaching strategies in an inclusive classroom

was conducted using inferential statistics, specifically a z-test. The study aimed to determine if there was a significant difference between the two groups regarding their ability to modify and adapt teaching methods to cater for diverse learners.

The z-test analysis revealed no statistically significant difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in their preparedness to adapt teaching strategies for an inclusive classroom. This result indicates that the training programs for both groups have similarly equipped them with the skills and knowledge needed to effectively modify their teaching approaches to meet the needs of all students, including those with disabilities.

Both groups of preservice teachers demonstrated comparable levels of readiness in implementing adaptive teaching strategies, suggesting that the curriculum and training methods employed in their respective programs are equally effective. Consequently, it can be inferred that both Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers are well-prepared to handle the challenges of inclusive education and to ensure that all students receive an equitable learning experience.

6.1.4 Research Objective Four: Preparation on Assessment Practices in an inclusive classroom

The purpose of the survey was to investigate preservice teachers' preparation on the assessment practices in an inclusive classroom. The preparation of preservice teachers on assessment practices in an inclusive classroom was evaluated by comparing two groups: Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers. Using inferential statistics, specifically a z-test, the study assessed whether there were significant differences in their preparation levels.

The z-test was conducted to compare the mean scores of the two groups on their readiness to implement assessment practices in an inclusive classroom. The null hypothesis stated that there is no significant difference between the preparation levels of Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers.

The results of the z-test revealed a p-value greater than the standard significance level (typically 0.05). This high p-value indicates that the study failed to reject the null hypothesis, meaning there is no statistically significant difference between the two groups. Both Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers demonstrated comparable levels of preparedness in using appropriate assessment practices in inclusive educational settings.

These findings suggest that the training programs for both groups are similarly effective in equipping preservice teachers with the necessary skills and knowledge to conduct assessments in an inclusive classroom. Consequently, it can be inferred that the curriculum and training methodologies employed are successfully fostering equal levels of competency among preservice teachers, regardless of their specialization in Special Education or Community-Based Rehabilitation and Disability Studies.

4.2 Conclusions

Based on the findings of this study, the following conclusions were made:

1. Drawing on the inferential statistics, specifically the z-test and p-value, the study concluded that there is no statistically significant difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in their preparation to use appropriate Teaching and Learning Resources in an inclusive classroom. Both groups demonstrated comparable levels of knowledge and preparedness. This implies that the training programs for both Special Education and Community-Based

Rehabilitation and Disability Studies preservice teachers are equally effective in equipping them with the necessary competencies for inclusive education.

2. In conclusion, the study revealed that there is no statistically significant difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in their preparation regarding the selection and use of appropriate Teaching and Learning Resources (TLRs) in inclusive classrooms. This suggests that both groups are equally prepared in this aspect, highlighting the effectiveness of their respective training programs. Also, based on the findings, a majority of preservice teachers in this study understands how to adapt and use appropriate teaching and learning resources in an inclusive classroom, however, a few preservice teachers are not prepared on this phenomenon.
3. In conclusion, the research indicated that there is no statistically significant difference between Special Education and Community-Based Rehabilitation and Disability Studies preservice teachers in their preparation to adapt teaching strategies for inclusive classrooms. Both groups demonstrated comparable levels of readiness, suggesting that their respective training programs are equally effective in equipping them with the skills needed to modify teaching methods to meet diverse learners' needs. This highlights the strength of current teacher education programs in fostering the ability to implement adaptive teaching strategies, ensuring that all students can benefit from an inclusive educational environment. A few portions of participants disagreed, pointing to potential gaps in readiness, despite a significant percentage of participants agreeing with the key findings, which indicate a level of preparedness and training.
4. Finally, the study explored how well-prepared preservice teachers were for inclusive classroom assessment practices and it concluded that, the study found no statistically significant difference between Special Education and Community-Based Rehabilitation

and Disability Studies preservice teachers in their preparation for assessment practices in inclusive classrooms. Both groups exhibited similar levels of readiness, indicating that their training programs are equally effective in preparing them to assess diverse learners accurately and fairly. This outcome validates the importance of continuing to prioritize comprehensive assessment training in teacher education programs, ensuring that all preservice teachers are well-equipped to implement inclusive assessment practices that accommodate the needs of all students. Maintaining this focus will be essential for fostering equitable and effective education in inclusive settings. On the other hand, minority of both groups seem unprepared. This points to a possible weakness in their planning for putting inclusive assessment techniques into practice.

4.3 Recommendations

Based on the findings of the study, the following recommendations are proposed to strengthen preservice teachers' preparation towards the practice of inclusive education at the University of Education, Winneba. The recommendations are categorized under policy, practice, and stakeholder engagement to guide future actions by relevant actors in teacher education

Policy-Level Recommendations

1. The Department of Special Education at the University of Education, Winneba (UEW), in collaboration with relevant academic boards, should review and enrich the curriculum of Special Education and Community-Based Rehabilitation and Disability Studies programmes to integrate more structured content on inclusive education. This review should emphasize the practical use of Teaching and Learning Resources (TLRs), inclusive assessment strategies, and differentiated instruction to reflect the dynamic needs of diverse learners.

2. The University Management should reinforce institutional policies that promote inclusive education across all teacher preparation programmes. This could include formalizing inclusive education modules as compulsory, integrating inclusive practices in practicum assessment, and allocating resources to support inclusive teaching innovations.

Practice-Oriented Recommendations

3. It is recommended that the Department of Special Education and the Office of Teacher Education and Practicum at UEW organize periodic workshops, seminars, and practice-based clinics focused on inclusive teaching strategies. These should be designed to expose preservice teachers to real-world classroom applications, including opportunities to observe or co-teach in inclusive environments to build confidence and competence.

4. The Department should deepen collaborations with inclusive basic and secondary schools in the country to create more structured and diverse practicum experiences for preservice teachers. These partnerships can provide preservice teachers with the opportunity to engage with inclusive teaching, assessment, and classroom management strategies in real-time, thereby enhancing experiential learning.

Stakeholder Engagement Recommendations

5. Stakeholders such as Ghana Education Service (GES), Heads of Partner Schools, Non-Governmental Organizations (NGOs) in inclusive education, and alumni currently practicing in inclusive settings should be involved in dialogues and training sessions. Their contributions can help shape context-specific approaches that align training with the realities of Ghanaian classrooms, particularly in underserved or resource-constrained areas.

4.4 Suggestions for further studies

1. A similar study can be conducted in other teacher training institutions in the Central Region and other regions of Ghana. This would improve the generalizability of conclusions drawn about the preservice teachers' preparation towards the practice of inclusive education
2. Since this study employed a quantitative research approach, a similar study can be conducted using a qualitative or mix method approach
3. Further studies can be conducted on the preparation between general education preservice teachers and special education preservice teachers towards the practice of inclusive education

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Appendix A

Questionnaire

UNIVERSITY OF EDUCATION, WINNEBA

DEPARTMENENT OF SPECIAL EDUCATION

Thank You for your time and for your participation in this study that contributes to our understanding of **"Preservice Teachers' Preparation towards the practice of Inclusive Education in the University of Education, Winneba."** This study is being conducted by David Bunbun, who is currently pursuing a Masters of Philosophy in Special Education.

Note: **DO NOT** write your name or index number anywhere on this questionnaire. **Honestly** answer the questions based on what you really know or do

SECTION A- Bio

1. What is the specialism of your current teacher training Programme?

   ……

2. What is your Gender? **Tick (√)**

1. Male
2. Female

3. What would be your qualification after your current teacher Training?

   ……

4. What is your age range?

Age range	√
Under 20	
20-25	
26-30	
31-35	
Over 35	

***4** means strongly agree (√) **3**= agree (√) **2**= disagree (√) **1**= strongly disagree (√).*

SECTION B-

Preservice teachers' Knowledge on Inclusive Education

S/N	**Items**	**Tick the most appropriate to you (√)**			
		SA	A	D	SD
5.	I have clear concepts of the term "Inclusion"	4	3	2	1
6.	Every child regardless of disabilities has the right to be educated in the regular class.	4	3	2	1
7.	Students with special needs can best be served in the general education classroom.	4	3	2	1
8.	The inclusion of students with special needs in the class can be beneficial for students without disabilities. .	4	3	2	1
9.	Students with special needs benefit both academically and socially from being placed in an inclusive setting	4	3	2	1
10.	Inclusive teaching is a successful education system to address learners' needs.	4	3	2	1
11.	Inclusive teaching requires collaboration among teachers (General &special).	4	3	2	1

12.	Successful implementation of inclusive education requires special training for teachers.	4	3	2	1
13.	Teachers should use different methods of teaching to satisfy the needs of disabled students.	4	3	2	1
14.	Teachers should have opportunities to adapt the syllabus and teaching materials while teaching in inclusive classes.	4	3	2	1
15.	The teacher should encourage cooperative learning to make all students support each other.	4	3	2	1
16.	Inclusive teaching makes the teacher feel more responsible for students with special needs.	4	3	2	1
17.	Teacher should manage the classroom layout and setting plan for the children with special needs.	4	3	2	1
18.	Teachers should use differentiated instruction in an inclusive classroom	4	3	2	1
19.	Teachers should collaborate with other professionals in designing individualized educational plans (IEP) for students with disabilities.	4	3	2	1

SECTION C

Preservice Teachers' preparation on the selection and use of appropriate Teaching and Learning Resources

S/N	**Items**	**Tick the most appropriate to you (√)**			
		SA	A	D	SD
20.	Teacher can use of TLM as a supplement of textbook	4	3	2	1
21.	Teacher use of TLM is to arouse curiosity in students during a lesson	4	3	2	1
22.	Teacher use of TLM is to establish two-way communication between teacher and students	4	3	2	1
23.	Teacher use of TLM in teaching in groups is to offer students opportunity to support peers in learning	4	3	2	1
24.	Low level of the use of TLM by teachers in teaching results in ineffective classroom management	4	3	2	1
25.	Teacher uses of TLM to assess students' learning in a lesson.	4	3	2	1
26.	Teacher use of TLM is to provide students with feedback	4	3	2	1
27.	Teacher use of TLM is to encourage collaboration among students in a lesson	4	3	2	1
28.	Teacher selection and use of TLM is for the developmental level of students in a lesson	4	3	2	1
29.	Teacher use of TLM in teaching is to sustain students' interest in a lesson	4	3	2	1
30.	Teacher can hold general discussion with students after the use of TLM in a lesson	4	3	2	1
31.	Teacher use of TLM is to help students predict the outcome of investigation before exploration	4	3	2	1
32.	Teacher use of TLM is to encourage students to learn in a lesson	4	3	2	1
33.	Teacher use of TLM is to cause students to think and make meaning in a lesson	4	3	2	1
34.	Teacher use of TLM is to enable students to explore the subject matter	4	3	2	1
35.	Teacher monitors students' interactions with TLM in a lesson	4	3	2	1
36.	Teacher uses TLM to bring about flexibility in learning among students	4	3	2	1
37.	Teacher uses TLM to help students gain confidence of their abilities in science	4	3	2	1
38.	Teacher uses of TLM in teaching in groups is to offer students opportunity of observing, classifying, and organising information	4	3	2	1
39.	Teacher should modify TLM to reflect needs of students in lesson	4	3	2	1
40.	Teacher use of TLM brings about self-directed learning among students	4	3	2	1
41.	Teacher use of TLM is to encourage students to look carefully in learning	4	3	2	1
42.	Teacher use of TLM is to help students confront their thinking that is correct scientific knowledge	4	3	2	1
43.	Teacher use of TLM is to meet students' needs in a lesson	4	3	2	1
44.	Teacher use of TLM is to ensure an improved student's performance	4	3	2	1

SECTION D

Preservice teachers' preparation on the adaptation of Teaching Strategies for an Inclusive Class

S/N	Items	Tick the most appropriate to you (√)			
		SA	A	D	SD
45.	Before the start of the class, pre-teach challenging terminology and topics.	4	3	2	1
46.	Use Task differentiation.	4	3	2	1
47.	Provide frequent comments to encourage sluggish learners to participate actively in class.	4	3	2	1
48.	Encourage peer teaching to ensure that no student falls behind in class.	4	3	2	1
49.	Encourage learners to work together to study.	4	3	2	1
50.	Use several assessment strategies to help slow learners understand.	4	3	2	1
51.	Accept alternative methods of information sharing	4	3	2	1
52.	Use a variety of memorization strategies to aid in the retention of data by slow learners. Use of mnemonics, for example	4	3	2	1
53.	Use task analysis to ensure that all of pupils grasp what is being taught	4	3	2	1
54.	Differentiating tasks in their class delivery to ensure that all learners achieve their learning objectives.	4	3	2	1
55.	Take into account individual learners' capabilities when delivering lessons to ensure that all learners benefit from the teaching and learning process.	4	3	2	1
56.	Use bold writing to help persons with low vision	4	3	2	1
57.	Tailor the content and instructional method to meet the requirements of individual learners in order for them to attain the goals set out in the authorized instructional strategies.	4	3	2	1
58.	Provide work completion deadlines that are flexible	4	3	2	1
59.	Encourage pupils to choose their own activities to keep their interest in class alive	4	3	2	1

SECTION E

Preservice Teachers' preparation on Assessment practice in an Inclusive Class.

S/N	Items	Tick the most appropriate to you (√)			
		SA	A	D	SD
60.	The feedback that students receive helps them improve	4	3	2	1
61.	Students' learning objectives should be discussed with students in ways they understand.	4	3	2	1
62.	Students are helped to understand the learning purposes of each lesson or series of lessons.	4	3	2	1
63.	Assessment criteria are discussed with students in ways they understand	4	3	2	1
64.	Provide guidance to help students assess their work	4	3	2	1
65.	Students are helped to think about how they learn best	4	3	2	1
66.	Provide guidance to help students assess their learning.	4	3	2	1
67.	Regularly discuss with students, ways of improving learning how to learn.	4	3	2	1
68.	Assessment practices help students to learn independently	4	3	2	1
69.	The main emphasis in assessments is on whether students know, understand or can-do prescribed elements of the curriculum.	4	3	2	1
70.	Students should be given opportunities to create their questions using Bloom's taxonomy and give feedback to their peers.	4	3	2	1
71.	The teacher can use either of assessment method in an inclusive class which may include, Diagnostic, Formative, Summative, norm-referenced, Criterion-Referenced, interim, confirmative, Ipsative and Observation Assessment.	4	3	2	1
72.	Assessment would reveal that learners who fail regularly are lazy.	4	3	2	1
73.	Assessment shapes and modifies on-going teaching of learners	4	3	2	1
74.	Assessment is an accurate indicator of learners' academic progress	4	3	2	1

Thank you for participating

Appendix B

Information Sheet

Purpose of the Study.

As part of the requirements for a Masters of Philosophy at the University of Education, Winneba, I have to carry out a research study. The study is concerned with investigating Preservice Teachers' preparation towards the practice of Inclusive Education at the University of Education, Winneba.

What will the study involve?

The study would involve the use of quantitative method in data collection; hence the concerns of participants would be recorded on a paper questionnaire, which would take 30 minutes to answer.

Why have you been asked to take part?

You have been asked to take part in this study because you are specifically or generally suitable to provide data for my study.

Do you have to take part?

participation is voluntary. You have the right to withdraw within two weeks of participation and ask to have your data destroyed.

Will your participation in the study be kept confidential?

Yes! I will ensure that no clues to your identity appear in the thesis. Any extracts from what you say that are quoted in the thesis will be entirely anonymous.

What will happen to the information which you give?

The data will be kept confidential for the duration of the study, available only to me and my research supervisor. It will be securely stored and locked. On completion of the project, they will be retained for minimum of a further two years and then destroyed.

What will happen to the results?

The results will be presented in the thesis. They will be seen by my supervisor, a second marker and the external examiner. The thesis may be read by future students on the course. The study may be published in a research journal.

What are the possible disadvantages of taking part?

I don't envisage any negative consequences for you in taking part. It is possible that, this may take some time

Who has reviewed this study?

Approval has been given by the Department of Special Education, University of Education, Winneba before these studies is taking place.

Any further queries?

If you need any further information, you can contact:

Researcher

Name: David Bunbun

Phone: 0249559169

Email: bunbundavid@gmail.com

If you agree to take part in the study, please sign the consent form overleaf.

Consent Form

I……agree to participate in Bunbun David's research study.

1. The purpose and nature of the study has been explained to me in writing.
2. I am participating voluntarily.
3. I give permission for my participation.
4. I understand that I can withdraw from the study, without repercussions, at any time, whether before it starts or while I am participating.
5. I understand that I can withdraw permission to use the data within two weeks, in which case the material will be discarded.
6. I understand that anonymity will be ensured in the write-up by disguising my identity.
7. I understand that disguised extracts from my questionnaire may be quoted in the thesis and any subsequent publications if I give permission below:

(Please tick one box:)

I agree to quotation/publication of extracts from my interview ☐

I do not agree to quotation/publication of extracts from my interview ☐

Signed: ……. Date: ……..

Print name: …….

Appendix C

Introductory Letter

UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF APPLIED BEHAVIOURAL SCIENCES IN EDUCATION
DEPARTMENT OF SPECIAL EDUCATION
P. O. Box 25, Winneba, Ghana
+233 (0)20 2041069

23rd May, 2024

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION: MR. DAVID UWUMBORLAME BUNBUN

I write to introduce to you, **Mr. David Uwumborlame Bunbun** an M Phil student of the Department of Special Education with index number 8230150008.

He is currently working on his thesis on the topic: **"Preservice Teachers' Preparation towards the Practice of Inclusive Education at the University of Education, Winneba."** He needs to administer questionnaire in your institution.

I would be grateful if you could give him the needed assistance.

Thank you for the consideration and assistance.

Yours faithfully,

.....
MRS. FLORENCE AKUA MENSAH
(Ag. Head of Department)