DEBRE BERHAN UNIVERSITY

TEACHERS' CURRICULUM ADAPTATIONS IN SELECTED INCLUSIVE SECONDARY SCHOOLS IN DEBRE BERHAN TOWN

By

YISMAW GEREMEW

DEPARTMENT OF PSYCHOLOGY COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

JUNE 2024

DEBRE BERHAN UNIVERSITY

TEACHERS' CURRICULUM ADAPTATIONS IN SELECTED INCLUSIVE SECONDARY SCHOOLS IN DEBRE BERHAN TOWN

A Thesis Submitted as a Partial Fulfilment of the Requirements for the Award of the Degree of Master of Arts in Special Needs and Inclusive Education

By

YISMAW GEREMEW ANTENEH

DEPARTMENT OF PSYCHOLOGY COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

JUNE 2024

Approval of Thesis for Defence

This is to certify that the thesis prepared by **Yismaw Geremew Anteneh** "**Teachers' curriculum adaptations in selected inclusive secondary Schools in Debre Berhan Town**" and submitted as a partial fulfillment for the award of the Degree of Master of Art in Special Needs and Inclusive Education.

Signed by Examining Board:

----------	----------	----------
Name of the chairperson	Signature	Date
----------	----------	----------
Name of major Advisor	Signature	Date
___ _____ _____	_____ ____	_____ ____
Name internal examiner	Signature	Date
_____ _____ _____	_____ _____	_____ _____
Name of external examiner		

Declaration

I hereby declare that this thesis entitled "**Teachers' curriculum adaptations in selected inclusive secondary Schools in Debre Berhan Town"** was prepared by me, with the guidance of my advisor. The work contained herein is my own except where explicitly stated otherwise in the text, and this work has not been submitted, in whole or in part, for any other degree or professional qualification.

Author	Signature	Date:
Yismaw Geremew Anteneh	----------	----------

Witnessed by:

Name of student's advisor	Signature	Date:
----------	----------	----------

Acknowledgments

I offer my genuine thanks to God who helped me from the beginning to the end of my work. I would like to give my heartfelt thanks to Tedla Kutaye (Ph.D.) for giving me endless support from first up to end. I would like to express thanks to my teacher, Tamene Kenine (Ph.D.) of Debre Berhan University, who provided me with unlimited constructive comments and useful materials during the preparation of my thesis. I would like to express my thankfulness to the Debre Berhan Town Education Department for giving background information on secondary school teachers and students. I would like also to express my thankfulness to Mr. Zenebe and Mr. Gashaw in Haile Mariam Mamo secondary school and Mr. Melaku Debre Berhan general secondary school principals who tirelessly assisted me during data collection. I would also like to thank my classmate Hana Takel who helped me with sign language interpretation during group discussions for the students with hearing impairment. I would like also to express my gratitude to my father Abuhai Geremew Anteneh and my mother, Emmuhai Muluye Bitew, my brothers, sisters, and the whole family for providing me with financial and moral support throughout my life.

Table of Contents

Contents page

Acronyms

CA	Curriculum adaptation
CRPD	convention on the right of a person with a disability
DBSS	Debre Berhan Secondary School
FDRE	Federal Democratic Republic of Ethiopia
FGD	Focus Group Discussion
HMSS	Haile Mariam Mamo Secondary School
ICR	Inclusive Classroom
IE	Inclusive Education
IEP	Individual Educational Plan
IT'S	Information Technology
MoE	Minister of Education
SDG	Sustainable Development Goals
SHI	Students with Hearing Impairments
SMART	specific, observable, measurable, achievable, realistic, and timely
SPSS	Statistical Package for the Social Sciences
SVI	students with visual impairments
SWD	students with disabilities
SWODs	students without disabilities
UDHR	Universal Nation Declaration of Human Rights
UNCRPD	United Nation Convention on the Rights of a Person with a Disability
UNICEF	United Nations International Children Emergency
UNESCO	United Nations Educational, Scientific and Cultural Organization

List of tables

List of Figures

Abstract

The purpose of this study was to investigate the extent of curriculum adaptation by teachers in selected inclusive secondary schools in Debre Berhan town, Amhara Region of Ethiopia. A concurrent mixed research design was employed. Data was collected using a questionnaire, semi-structured interview, focused group discussion, and observation. Participants of the study were 78 teachers, sex school leaders, and 28 students with disabilities. The quantitative data regarding teachers' practice of curriculum adaptation analysis was made using mean scores, and an independent t-test was used to compare means scours significant differences between groups. As such scores between 1 and 1.66 were classified as low, between 1.67 and 2.33 were classified as moderate whereas between 2.34 and 3 were classified as high level. The data Regarding challenges faced by teachers to implement curriculum adaptation were analyzed in frequency and percentage while the qualitative data was analysed thematically. The findings revealed that the overall level of teacher's implementation of curriculum adaptation was moderate. Whereas, the overall level of teachers implementing of instructional strategy, content, and assessment adaptation falls under the moderate level. whereas, material adaptation was low. Both school teachers faced different challenges of rigid school rules, shortage of time, lack of training, lack of understanding of curriculum adaptation, inadequate resources, inaccessible infrastructure, large class size, and large textbook. The study recommends providing secondary school teachers with training on adapted curriculum, hiring at least a special needs specialist, and providing adapted materials for the effectiveness of the curriculum adaptation.

Keywords: Practice, curriculum adaptation, Strategy, Content, Materials, Assessment, and Challenges.

CHAPTER ONE

1.1 Background of the Study

The concept and implementation of inclusive education differ considerably from one country to another; without any doubt, many scholars have impacted this concept and explained it in various ways (Ciyer, 2010). Similarly, Lehtomaki et al. (2020) stated that the definitions of inclusive education, the needs of diverse learner groups, and approaches to teacher education differ in various countries. However, each aims to improve the quality of education. Let's see some countries' definitions of inclusion, as a philosophical, social, political, economic, and especially pedagogical approach, as well as a process [Argentina]. The system of ensuring access and learning for all children, particularly those disadvantaged by linguistic, ethnic, gender, geographic, or religious minority [Ghana]. An education system that is open to all learners, regardless of poverty, gender, ethnic background, language, disabilities, and impairments [Ethiopia].

Curriculum adaptation (CA) is needed to implement inclusive education (IE) in the desired way because the curriculum is the vehicle that drives inclusion (Msomi, 2020). CA is a crucial tool for fostering a broadened concept of inclusive education (Kaur, 2021). Teachers adapted the curriculum to ensure the inclusion of all learners (Adewumi et al., 2017). Equally, teachers in an inclusive school have to teach all children together in a class, it is responsible to provide a flexible curriculum that can be accessed by all students (Abhiyan, 2016). Curriculum adaptation involves differentiating instruction to provide all learners with a variety of ways (Kaur, 2021). Correspondingly, CA involves differentiations of content, teaching process, assessment and evaluation, and the physical environment to help students achieve success in the classroom (Abhiyan, 2016). Differentiated instruction means to line up instructional disciplines, objectives, resources, and assessment methods with students' learning needs (Hall, 2002). CA is a continuous dynamic process that modifies and accommodates the regular programmers of teachers to meet the learning requirements of students with special needs (SWSN). Adaptation, accommodations, and modifications may seem like interchangeable terms, but when it comes to inclusion, accommodation, and modifications serve as two separate kinds of CA (Mishra et al., 2019).

According to Adewumi et al. (2017) the application of various instructional techniques, multi-grade, individual and group work, and extra work as methods of curriculum adaptation for the inclusion of students with special needs (SWSD). Individuals with disabilities will need to make appropriate accommodations and/or modifications while learning in the inclusive classroom with their peers. To achieve this, general education teachers should be using CA in their daily lessons (Nucci, 2019).

According to United Nations Convention on the Rights of Persons with Disabilities (UNCRPD, 2016), Article 24, the right to IE emphasizes SWDs to access and benefit fully from primary and secondary education. To achieve these schools must implement CA. Also, outline several accommodations that might include changing the location of a class, providing forms of communication, enlarging print, providing a note-taker or a language interpreter, allowing students to use assistive technology in learning and assessment situations, allowing more time, and providing alternative evaluation methods. Correspondingly, SWDs use their current skill range and participate, at least partially, in a general education instructional activity, which requires effective adaptation of instructional strategies, instructional materials, curricular content, and assessment methods (Kaur, 2021).

Most African nations have endorsed and ratified several international initiatives, including the Convention on the right of person with disabilities (CRPD) (2016), the Salamanca Statement and Framework for Action on Special Needs Education (1994), the Education 2030 Declaration and Framework for Action for the implementation of the SDG 4 framework. Those all-ratified policies provided the quality of IE for all. Nonetheless, students with special needs, enter the public school system primarily through the placement of special schools or separate classrooms connected to mainstream schools (Nel, 2020). Similarly, Ethiopia has ratified different national and international IE policies such as UNCRPD (2016) and SDG 4 (Ludago, 2020); these policies allow teachers to apply for CA. However, the practice of IE in secondary schools, particularly in Debre Berhan Town, faced several challenges such as teacher-centered teaching styles, rigid assessment methods, and inaccessibility of infrastructures. Supported this idea, Mergia (2020) stated that in Ethiopia, the teaching-learning process is characterized by a highly rigid curriculum.

Ethiopia is a multilingual, multinational, and multicultural country, requiring a hands-on educational approach that seeks to meet the diverse needs and interests of its learners. To succeed this implementation of effective IE may be the only way. Therefore, the study explored curriculum adaptations by teachers in selected inclusive Secondary Schools in Debre Berhan Town.

1.2 Statement of the problem

Ethiopia has developed its own and adopted different policies that provide quality and lifelong universal education for all (Sosaango, 2021). Persons with disabilities can access an inclusive, quality, and free primary and secondary education on an equal basis with others in the communities in which they live (UNCRPD, 2016), The Standard Rules on the Equalization of Opportunities for Persons with Disabilities (Rule 6 Para 6), states education of persons with disabilities integral part of the education system and need to have a clear policy, have a flexible curriculum, provide quality materials, and on-going teacher training and support, and Salamanca Statement and Framework for Action on Special Needs Education 1994 (article 7) states inclusive schools must recognize and respond to the diverse needs of their students. These all policies have important implications for improving inclusive education. However, the implementation of IE in secondary school particularly Debre Berhan and Haile Mariam Mamo secondary school has challenges in addressing quality education for SWDs.

Nel (2020) clarified in the background above that SWDs enter school primarily through the placements of separate schools or classrooms. Similarly, in Debre Berhan Town when SWDs come to special classrooms in elementary school from Kindergarten (K.G) up to grade three or four [K.G up to grade three students with visual impairments and K.G up to grade four students with other disabilities]. During this duration, students with disabilities (SWDs) learn with special needs teachers. In these special classes the teaching-learning activity was good. This is because teachers have a good understanding of identification systems, identify students' learning profiles by type of disability, plan based on student's learning profiles, select appropriate assessment methods, select appropriate teaching materials, as well as teach students with visual impairment (SVI) and students with hearing impairment (SHI) in braille and sign language respectively. Teachers have awareness about SWDs; SWDs identify early and attend relevant teaching and other support. Inclusive training for teachers is crucial for teachers to have comprehensive knowledge, skills, and understanding (Ozel et al., 2018).

Starting from grade three or four SWDs learn in misterming class with students without disabilities (SWODs) by regular teacher up to grade eight. At this time SWDs faced obstacles because teachers could not enough understand overviews of SWDs. Teachers at this level (3 or 4- 8^{th} grade) have a chance to share their ideas with special needs teachers to reduce the level of difficulties of SWDs. In other words, SWDs have a chance to communicate with special needs teachers related to their educational difficulties. This is because the school has special needs teachers.

However, at the secondary school level particularly Debre Berhan and Haile Mariam Mamo secondary school SWD learn in the same classroom as their peers by regular teachers the education system is not favourable to them. Teachers do not have adequate awareness of SWDs Also; do have not a chance to share ideas with special needs experts because in the school there is no special needs expert. As a result, SWD does not identify the type and level of disability because the school often uses elementary school reports. This report has been more than a decade. During this period, disabilities may occur, be treated, or minor disabilities may turn into major disabilities. The way to identify students with special needs is not scientific and up-to-date. As a result, teaching and learning systems and other supports are inefficient and ineffective.

Taba (1962) stated that identifications of learners learning profile are the initial steps of educators to teaching and learning process. In these schools, the problem is not only the identification system, but also the school rules are strict, most of the teachers apply the teacher-oriented teaching method, focusing on covering the content. In addition, there is not enough teaching material. All these obstacles are indicators of a lack of CA. If these problems are not solved soon, the consequences will be dire. These challenges may increase the number of students who score low, repeat classes, and drop out. Deferent researchers were conducted related of this issue. In Namibia, factors affecting the implementation of inclusive education practices in selected secondary schools stated that a curriculum that is too rigid, centralized, and fails to reflect the diversity of learners can harm the learning process (Mokaleng, 2019). In California, on Adapting Curriculum for All Students: How Teachers Can Be Better Prepared for the ICR found that with limited training in curriculum adaptations, students may not receive the entitled adaptation that allows them true access to the general education curriculum (Nucci, 2019).

Also, a study done in India on Curriculum adaptation in inclusive education found that bridging the gap between demanding curriculum and existing curriculum (Mishra et al., 2019)

A study done by Zelelew (2018) regarding the participation of SVI at Addis Ababa University found that lack of curriculum adaptation is one of the most serious barriers. Also, a recent study done by(Tizazu & Negassa, 2023) on assessing factors affecting the inclusion of SVI in selected primary schools in Dado Woreda found lack of professional training, lack of inclusive, and lack of flexible curriculum are a series of barriers to students with visual impairment in inclusive classroom (ICR). They addressed the support provision of SVI, major barriers hindering the participation of SVI, and the extent of SVI's involvement in instructional activities.

However, both (Tizazu & Negassa, 2023; Zelelew, 2018) are concerned with only IE in learners with visual impairments and geographically primary schools and higher educational institutions respectively conducted in Ethiopia. Leaving a gap at the level of secondary schools and not addressing other types of disabilities. Apart from this, the issue of curriculum adaptations by teachers in inclusive education at secondary schools in Ethiopia particularly in Debre Berhan Town is less emphasized. Therefore, the goal of this study was to examine better empirical evidence regarding the status of CA in selected inclusive Secondary Schools.

The investigator was motivated to carry out this study to investigate the engagement and challenges of teachers regarding the implementation of CA in Debre Berhan Town-selected inclusive secondary schools. Therefore, the researcher aims to draw a clear picture of the extent to which teachers engage in CA and the challenges they face in their activities to meet the students' diverse learning needs. In this regard, the researcher supposes that this proposed study contributes to filling this research gap by answering the following research question.

1.3 Research question

The following research questions guided the study:

1. To what extent do teachers engage in curriculum [instructional strategies, content, material, and assessments] adaptation to ensure IE?
2. What are the challenges faced by teachers in using CA to ensure IE?

1.4 Objectives of the study

1.4.1 General Objective of the Study

The general object of this study was to investigate the extent of teachers' practice and challenges of curriculum adaptation in selected secondary inclusive schools in Debre Berhan Town, Amhara Region of Ethiopia.

1.4.2 Specific objectives of the study

In line with the above general objective, the specific objectives of the study are mentioned below.

1. To explore the extent to which teachers engage in curriculum adaptation to ensure IE.
2. To investigate the challenges faced by teachers in using CA to ensure IE.

1.5 Significance of the Study

The study was conducted to investigate the practice and challenges of curriculum adaptations by teachers to ensure IE in selected secondary schools in Debre Berhan town. The findings of this study have important implications to ensure the goal of the Ethiopian Minister of Education (MoE, 2022) 10-year education development plan (2020/21–2029/30) particularly, make education equitably accessible by adapting the curriculum according to the needs and abilities of the students. Also, have important implications for improving the quality of IE in secondary schools in Ethiopia. Also, benefits teachers, principals, SWDs, SWODs, and different stockholders; It might provide SWDs with opportunities for equal participation in an inclusive classroom and minimize the number of dropouts related to teachers' curriculum adaptation. It contributes to school principals and school teachers' implementation of CA in their schools effectively and facilitates what materials are needed during instruction. This enables teachers to facilitate their teaching and learning based on the needs of their students and increases their understanding of CA and to feel more confident in implementing it. It also encourages policymakers, artists, writers, and actors to devote their time and focus vital work on gaps in the implementation of CA in IE. In line with this, it also serves as an eye-opener for other academicians and practitioners who might be interested in conducting further research on similar areas.

1.6 Delimitation of the Study

The study was geographically, delimited in Amhara regional Debre Berhan town. Particularly Debre Berhan General Secondary School and Haile Mariam Mamo Secondary School and conceptually, the study was focused on the engagement and challenges of teachers on the adaptations of strategy, content, material, and assessment to ensure IE in select secondary schools.

1.7 Operational Definition

The following terms that appeared in the study will be used, as defined below**:**

Curriculum adaptation is a process whereby the school systems accommodate or modify teachers' contents, methods, materials, and assessment techniques to ensure high-quality learning outcomes for all members of the class.

Challenging: this is an obstacle to implementing CA in inclusive schools.

Practice is teachers' exercise of adapting the learning environment, strategy, content, material, and assessment.

Inclusive education means an educational process in which all students are welcomed, valued, and included regardless of their differences in regular school within the regular class.

Secondary school: Locally, a high school (abbreviated as HS or H.S.) may be referred to as a secondary school. The curriculum spans from ninth to twelfth grade.

1.8 Organization of the Study

This study consists of six chapters. The first chapter deals with the introduction part of the study that comprises the background of the study, a statement of the problem including questions to be answered, objectives, significance, scope of the study as well as operational definitions of some important terms and organization of the study. The second chapter focused on a review of related literature. The third chapter preserved the description of the study area, research design, study population and target population, data collection procedures, analysis, and ethical considerations. The fourth chapter includes the findings of the study, chapter five discusses the study, and chapter six presents the conclusion and recommendations of the study.

CHAPTER TWO

2. Review of Related Literature

2.1 Introduction

The review of literature is an essential component of research that delivers a summary of the existing knowledge on a specific topic. This chapter aims to present a comprehensive analysis of the literature related to CA, with a focus on inclusive education. It includes the overview of IE, concepts of curriculum adaptation, types, principles, challenges, procedures of CA, and CA for students with disabilities [visual impairment, hearing impairment, and physical disability]. There are different types of disabilities. However, in this review literature included only SVI, SHI, and students with physical disabilities because the study areas included only three listed types of disabilities.

2.2 Overview of Inclusive Education

Inclusive education (IE) is to integrate students with disabilities into general education and provide suitable support and assistance to them, to meet their different abilities, learning styles, and backgrounds in mainstream education (Potmesil, 2022). IE means a basic human right to all learners. It is also a systemic reform process that includes adjustments to curriculum, instructional strategies, approaches, structures, and tactics to remove obstacles and realize the goal of giving all students in the appropriate age range an environment and learning experience that is fair, participatory, and best meets their needs (UNCRPD, 2016). IE is a core issue in educating children with disabilities and learning difficulties with normal children (Mishra et al., 2019). Ensuring that every student feels appreciated and respected and may have a strong sense of belonging is the goal of inclusion in education (Antoninis et al., 2020). Correspondingly, the goal of IE is to maintain equity in society and make education accessible to all, regardless of a learner's disabilities. It emphasizes that special needs students can attend regular schools with other students without facing any special treatment (Qounsar, 2018). In an ICR effective school and teacher characteristics influence positively students' achievement or outcome. School characteristics could be qualified leadership, learning environment, high expectations, positive reinforcement, monitoring student progress, and parent-school cooperation (Coşkun et al., 2009).

Teacher characteristics such as effective time management, strong relationships with students, positive feedback, a high percentage of student success, and overall support for both disabled and non-disabled students (Coşkun et al., 2009).

The importance of IE is improves the quality of life for those it serves, empowering them to become self-sufficient; it provides economic benefits to both individuals and society; it eliminates discrimination and promotes social equity; it encourages completion of primary and secondary education and aids in the achievement of sustainable development goals; it is more affordable than opening special schools across the nation; and it assists people with disabilities in remaining with their families (MoE, 2022). Create a varied, engaging atmosphere where people can learn and grow; this will foster friendships and possibilities to make neighbors; it will also foster self-respect; it will allow people to receive education alongside peers their age; and it will create role models for others (Mishra et al., 2019).

The practices of IE, teaching pupils with special needs in the inclusive classroom no doubt imply adaptation of the standard curriculum. Instructors are realizing that students with special needs could need longer class periods, alternative teaching strategies, and specialized training. In that case, teachers fear the need for more time, materials, and knowledge (Ludago, 2020). Ludago (2020) Additionally, the background for the implementation of inclusive education is provided by rich international and national conventions, the constitution, education, and training policies, and shifting societal, community, and parental attitudes toward people with disabilities. Regular schools have started to admit CWDs, and parents have begun to send their children to regular schools.

According to Sosaango (2021), schools face many challenges in implementing inclusive education. Some of them are the attitude of teachers and parents towards children with disability and teachers of students with special needs, lack of attention from the education office in both zones and Woreda, lack of educational materials, large class size, lack of skilled manpower, etc. In general, the research was conducted in different parts of Ethiopia at different times regarding attitudinal barriers, knowledge barriers, inflexibility of curriculum, policies barriers, economic barriers, and physical/ infrastructural barriers are the major interferences to implementing inclusive education in Ethiopia.

2.3 Theoretical Framework of Curriculum Adaptation

There are several curriculum adaptation models designed at different times by different theorists. However, this study was guided by Taba's model. Also called the interactive model, it was designed in 1962 by Hilda Taba, an Estonian-American curriculum philosopher and teacher. She advocates for a significant role for teachers and adopts a grassroots or bottom-up methodology. The model comprises seven interconnected stages of the teaching and learning process: (1) identifying the desires of the students [The curriculum is created for the kids whose needs are identified by the teacher at the beginning of the process], (2) formulation objectives [Once the learner's requirements have been identified as those that need to be attended to, the educator will outline the goals by which those needs will be met], (3) selection of content [select the relevancy and significance of the content], (4) organization of content [A teacher must not only choose the material to teach, but also arrange it in a specific order while considering the interests, academic performance, and maturity of the students], (5) choosing learning experiences [learners must be involved with the material and it must be delivered to them. The instructor should now choose an effective teaching strategy that will engage the pupils with the material], (6) organizing learning activities [The order in which the learning activities are arranged is determined by the learner's attributes as well as the material sequence. The student that the teacher will be instructing must be in mind], and (7) evaluating the system [to evaluate the success of learning aims, and assessment procedures essential to be planned].

The benefits of Taba's model include students' development of higher-order thinking skills; gifted students' increased opportunity to investigate questions through multiple accurate answers; students' collaborative work with others in groups to improve talking and listening abilities; and the opportunity for successful classroom negotiations. This model does not emphasize right or wrong answers; instead, it encourages open-ended questioning. Taba's model is directly related to my questions and will help to compare the analysis findings.

2.4 Overview of Curriculum Adaptation

The word curriculum is derived from the Latin root 'Currere' which means a chariot or runway. It has the same meaning as the word 'Course' in English. It also resembles the Sanskrit and Hindi term 'Karyakram' which means program. This curriculum is the total program of various activities providing a learning experience for the all-round development of students (Vyas, n.d). The curriculum is highlighted as the key to meeting all students with disabilities by being

flexible and more accessible (Mishra et al., 2019). Education curricula are pedagogical projects that emphasize the many and intricate relationships between teaching-learning contents, general education goals, reference and framework objectives for different subjects, in-class, and after-school teaching-learning strategies, correlated with formal activities, and strategies for evaluating how well the teaching-learning activities work (Mara, 2012).

According to MoE (2012) stated as the three main attributes of an inclusive curriculum are flexibility, relevance, and adaptability to the varied requirements and characteristics of lifelong learners. There will probably be students in an inclusive classroom who are capable at two or three curricular levels. A year or more ahead of schedule, some employees will be working at their age level, and some employees will be working at an earlier age level. This implies that educators ought to implement multi-level instruction or, at the very least, modify their methods to accommodate the diversity of their students' classrooms. Making accommodations for talented and gifted students who should progress through the curriculum more swiftly than their counterparts is one example of such an adaptation. Adaptation refers to accommodations and modifications, including any changes or supports put in place to support a student concerning the academic content, physical environment, types of devices used, and assessment practices to facilitate student success (Nucci, 2019).

2.4.1 Curriculum accommodation

Accommodation is the delivery of instruction or method of student performance and does not change the content or conceptual difficulty of the curriculum, the way the teaching is delivered, or how students behave, none of which alters the curriculum's intellectual complexity or content (Hall et al., 2004). denotes a convenient arrangement for imparting knowledge among learners (Parween, 2021). Nucci (2019) stated that accommodations are the supports, tools, and strategies that are in place to provide better access to curriculum and assess learning without changing academic standards. Students who receive accommodations in their learning are still graded the same as their peers. Examples: audiotape books, larger print on assignments, receiving an outline of a lesson, chapter, or note, written or spoken instructions, extra time on assignments, shorter assignments, use of a math chart, preferred seating, and a separate testing place.

2.4.2 Curriculum modification

It represents a change or alteration in the way of imparting the knowledge usually to support and ease the accessibility of information to all (Parween, 2021). Curriculum modification has changed content, instruction, also learning results to meet varied student needs (Hall et al., 2004). Nucci (2019) stated that modifications are changes made to the academic standards that allow an individual to learn or master a specific content area instead of an entire standard. Modifications are tailored to each individual's specific strengths and learning needs to ensure they are learning at an appropriate level. Students who receive curriculum modifications in their learning are not graded the same as their peers. Modifications should be considered or used after students have not shown progress with the use of only accommodations. For example, a test has fewer questions, or questions are simplified, graded using a different rubric, and content is used to guide individual educational plan (IEP) goals. The implementation and monitoring of the IEP is one of the most critical components in assuring the delivery of educational services, and the role of general and special educators in implementing the IEP is critical (Rotter, 2014). However, It is true that to plan and implement an IEP, teachers require a certain base knowledge about the IEP's underlying principles and processes (Mazza-Davies, 2008).

According to Kaur (2021), effective curriculum adaptations are founded at the levels of (a) adapting instructional strategies, (b) adapting instructional materials, (c) curricular content adaptation, and (d) adapting assessment procedures. In other ways instructional adaptations are organized under the subsequent headings: (a) Adaptations to the course contented, (b) Adaptations of the teaching process, (c) Adaptations of instruction methods and techniques, (d) Adaptations of learning setting, (e) Adaptation of instructional resources and (f) Adaptations to the assessment and measurement processes (Scott et al., 1998).

2.4.2.1 Adapting instructional strategies

Inclusive teaching strategy refers to any number of teaching approaches that address the needs of students with a variety of backgrounds, learning modalities, and abilities (Alemayehu, 2020). Similarly, It refers to the approaches that are employed by the teacher to make the students actively engage in learning (Parween, 2021). Kaur (2021) also describes the methods a teacher uses to impart knowledge to students in the class using a variety of approaches.

This method makes use of teacher presentation cues and demonstrations [e.g., verbal, gestural, or visual], diversifying the choice of groupings [several cooperative and small group learning activities], multisensory approaches, repeat/rephrasing directions, and use of materials based on students type and degree of disabilities like braille for students with total blindness. Adaptation in terms of learning strategies can be done in two ways, namely (1) learning planning should be made based on assessment results and made together between classroom teachers and special teachers in the form of individual learning programs and (2) using cooperative and participatory learning methods by providing equal opportunities between SWDs with SWODs (Mirasandi, 2019).

Abhiyan (2016) mentioned teachers employing a variety of tactics when teaching subjects. Verbal, kinaesthetic, visual, written, step-by-step, scaffolding, concept maps, group work, projects, peer tutoring, using past knowledge, brainstorming, dramatization, extending time, offering substitute activities, condensing assignments, planning field trips, employing large fonts, Braille or implicitly coded materials, real-world experiences, real objects, multiple choice questions, etc. are some examples of these.

According to Tichá et al. (2019) peer-assisted learning strategies (PALS), cooperative learning, and direct instruction can be used for students with different types of disabilities and related problems have produce better outcomes and make learning more interesting and engaging in ICR. Researchers argue that a variety of small groups are indicators of CA. However, most of the time learners were not arranged in groups based on their capabilities and abilities (Simangele, 2020).

2.4.2.2 Adapting Instructional Materials

According to (Perner, 2004), the material is about strategies and learning activities to facilitate curriculum adaptation. Curriculum materials are educational resources helpful to organize and implement curricular and instructional experiences for learners from pre-primary to secondary levels. Flowcharts, Textbooks /modules/, Syllabuses, and teacher guides are the primary instructional resources that are necessary for carrying out the general education curriculum of Ethiopia (MoE, 2020). According to Kaur (2021), Modifying the tools and/or supplies that students have access to during education is known as adapting instructional materials. During instruction, learners may employ more or simply different resources in several modalities thanks

to the process of material adaptation. The majority of material adaptations fall into one of four categories: modifying the written materials' readability level; improving important content features within the materials themselves; creating materials with features that cater to sensory modalities other than visual or auditory; and choosing alternative instructional materials based on their safety features or durability.

2.4.2.3 Content Adaptation

Content is the main "input" for teaching and learning. It is what the teacher teaches and what the teacher needs a student to learn or get access to the information. Curriculum content adaptation involves adjusting the intellectual demand of the learning task for learners (Vyas, n.d). This includes adaptation to the attention, thinking, and/or memory requirements associated with particular content. Reducing or adding the amount of subject content depends on his/her student's ability (Kaur, 2021). When a book is too long, it could be necessary to remove entire units or even only certain sections of the units (Nakayiza, 2019). Modifying content involves reducing the number of words given to a specific learner and giving pupils the option of reorganized concept-based instruction (Chimhenga, 2021). For the program, the book can include too much or too little information (Petrík, 2019).

According to, Nucci (2019) content adaptation includes determining content [identifying what areas may need to be adapted or changed], the quantity of content [reducing content to ensure students are still completing the key components of the assignment], clarifying content [Preparing students for the instruction and content by providing examples, pictures, and making instructions clear/concise], and format of content [adapting the way content]. Likewise, the Chicago Public Schools Office of Specialized Services reports, that content adaptation means adjusting the amount of information to be taught according to individual needs, changing the level of difficulty of materials to facilitate learning, and modifying the lesson format for different students. Students are given similar tasks that are believed to be equivalent to their knowledge. The teacher will monitor and help the students who need support (Simangele, 2020).

2.4.2.4 Adapting Assessment Procedures

Assessment is on-going processes that go hand-in-hand (Perner, 2004). According to Kaur (2021) adapting assessment procedures refers to altering the techniques a teacher uses to collect

data from his or her students. Assessing student work using a variety of criteria, giving worksheets and tests structured answer frames, comparing student performance to her past performance, evaluating processes equally with final products, and giving students a range of practice options and strategies for completing assignments are all ways to help learners meet their learning objectives. Testing adaptations include allowing tests/ projects to be taken orally, adding pictures/visuals to test, modifying format; including assignments, extending the time frame, and allowing un-timed testing. Unlike these teachers, they didn't give any additional time for SWDs in the regular class because of time limitations (Mitiku et al., 2014).

2.5 Types of Curriculum Adaptation

According to (Abhiyan, 2016; Diana, 2005) stated that there are nine types of curriculum adaptation. Those are: (1) quantity: Adapt the number of items the pupil is anticipated to master or finish, (2) time: Adapt the time allocated and permitted for education, task fulfilment, or test, (3) level of support: provided the number of individual assistances to keep the student on task or to reinforce or prompt use of a specific skill. And enhance adult-student relationships; usage of physical space and ecological structures,(4) input: Adapt the method instruction is transported to the learner, (5) difficulty: Adapt the skill level, problematic type, or the guidelines on how the learner may method the work, (6) output: Adjust how the learner can answer to instruction, (7) participation: Adjust the degree of a learner's active participation in the task, (8) alternate goals: Adapt the goals or outcome expectations while using the same materials, and (9) substitute curriculum: Provide diverse instruction and resources to a achieve learner's individual goals.

2.6 procedures of curriculum adaptation

According to (Andini et al., 2020) The pre-assessment is the first phase in the three-part curriculum adaption process. Its goal is to identify students' learning modalities, learning readiness, and interests. Self-study readiness led to a classical pre-test for discovery three student ability levels were identified: independent, guided, and frustrated (full help). Individual test stages were then continued at the independent and frustrated child's level by drawing the actual abilities and using a pre-assessment to find out what the students already understood (McBride & Goedecke, 2012). 2) identifying the curriculum adjustment, which is separated into curriculum accommodation (by coming up with alternate teaching methods) and curriculum modification (by changing the accomplishment/student competence standards and competencies), 3) choosing

the best teaching method for creating a diverse classroom based on the interests, learning modalities, and styles of the pupils.

2.7 Principles of Curriculum Adaptation

The principles of curriculum adaptations are a) designed for all students in all educational settings, b) accepts students' diversity, as reflected in individual differences, to be a key consideration in the teacher's plan, c) an interrelationship among the variables associated with adaptation, d) requires the teacher to attend the learner, the learning task, and the learning environment in optimizing learning opportunities for students, e) recognizes that students approach learning in multiple ways) recognizes the importance of careful collaborative preplanning for instruction, and requires that assessment practices align with the curricular and instructional adaptation provided for the student.

Paavizhi and Saravanakumar (2018) stated that CA for SWD provides effective opportunities for all children based on three key principles including, setting suitable learning challenges, responding to children's diverse learning needs, overcoming potential learning problems, and evaluations of children, both individually and in groups. Paavizhi & Saravanakumar (2018) also stated that the curriculum for all to be: (1) Child-centred- CWDs need a child-centered curriculum, which takes into account the individual needs of children. The curriculum needs to cite specific, observable, measurable, achievable, realistic, and timely **(**SMART), (2) flexible, locally relevant curriculum teaching and learning strategies that are intrinsically important for children with special needs, (3) Participatory- children with special needs require a learning environment in which can actively participate in learning in a small group, and (4) Partnership with parents-a key factor as children learns not only in the classrooms but also at home.

2.8 Curriculum Adaptation for students with disability in inclusive education

Adapting curriculum is a key component to providing access to the curriculum for individuals with disabilities (Nucci, 2019). For students with disabilities, the curriculum has to be accessed, participation accomplished, and effective progress ensured by way of flexibly organizing the learning environment and making the process of teaching and learning geared toward providing equitable opportunities for them (FDRE, 2020). Material making, breaking concepts and tasks, providing time and motivational opportunities, and addressing generalization across environments are all things that must be carefully considered and planned for within limited

instructional time for students with disabilities (McBride & Goedecke, 2012). CA for students with unique needs ensures that adapted education goals, contents, teaching methods, teaching-learning materials, and assessment practices according to their needs and abilities (MoE, 2022). Curriculum modification is an essential element for students with disabilities to access the general education environment (Hall et al., 2004). Hall et al. (2004) also stated curriculum modifications are effective not only for SWDs instead, for various groups of students, including general education students, and gifted and talented students. CA for SWDs to provide effective opportunities depends on three main principles. Those include setting suitable learning challenges, responding to children's diverse learning needs, and overcoming potential barriers to learning and assessment for individuals and groups of children (Paavizhi & Saravanakumar, 2018). Many factors promote learning of CWDs in the classrooms and curricular adaptation is one such factor (Abhiyan, 2016). Further described if the student cannot achieve the same outcomes, and then undertake appropriate adaptations include selecting the structure of instruction, selecting lesson /activity based/, selecting student-specific teaching strategies required in the class, development of modified material, examine the availability of support structure in the class, and make necessary changes/ highlighting the important concepts in a textbook, having the student listen to a taped textbook, using enlarged print, using an assistive technology device, using visual cues such as picture/. Students not effective in the above modification system may lead to individual education plans (IEP). Because the primary purpose of an IEP is to facilitate children in achieving their educational objectives (Roy, 2023).

According to Mirasandi (2019) CA to SWDs can be prepared through four ways, namely duplication (adjusting in full), modification (adjusting curriculum contents with student abilities), substitution (changing curriculum content with extra or less equivalent), and omission (remove some amounts that are impossible for SWDs to be capable to complete it. Different pieces of literature emphasized the importance of CA, in fact, teachers only adapted time and activities (Mzizi & Rambuda, 2014).

2.8.1 Curriculum adaptation for students with visual impairment in inclusive education

Mostly SVI learns through nonvisual modes: including touch involving real, concrete materials, and listening that includes greater use of detailed and descriptive instructions (Abhiyan, 2016). According to (Tizazu & Negassa, 2023), SVI was not properly participating in the inclusive

classroom because of the long distance from home to school, teacher-learner ratio and class size, lack of resources, lack of professional training, and lack of flexible curriculum. Correspondingly this idea Mitiku (2014) stated there are no reference books written in Braille, and other necessary special educational materials and equipment in the library. In addition, students do not have a chance to use materials found in the store because teachers of the school do not have adequate skills to manipulate the materials and because narrow classrooms and desks are put very close to each other, SVI does not have access to move freely in the classroom.

2.8.2 Curriculum adaptation for students with hearing impairment in inclusive education

According to Abhiyan (2016), hearing impairment in children is one of the causes of learning difficulties. Hearing impairment is not outwardly visible but has apparent effects on the language and communication skills of a child. This condition led to SHI may often require adaptations in the teaching-learning process including facing the child while talking and not speaking with your back facing the child, using a symbolic sign or a symbolic picture, allowing several breaks or extra time for oral and written responses, for any oral examination to be conducted sign language or gestures/ facial expressions, should be used, and should have a more objective based question, fill in the blanks, true/false, match the following, short answers, one-word answers, etc. To improve the teaching results, oral, sign language, bilingual language, and total communication teaching languages are used in inclusive education for students with hearing impairment (Potmesil, 2022). When learners with hearing impairment learn using sign language, they become cognitively engaged in the learning process (Nakayiza, 2019).

According to Chimhenga (2021), SHI often needs more time to understand the task and to finish it. Teachers used the giving of extra time as the main strategy (Mzizi & Rambuda, 2014). Evaluation adaptations to SHI include eliminating oral assessments (listening) replacing them with sign language in oral tests, and using more in written tests and performance tests (Mirasandi, 2019).

2.8.3 Curriculum adaptation for students with physical disability in inclusive education

According to ¯a-Tinana (2015), physical disabilities are difficulties associated with sitting, standing, getting into position, moving, communicating, using and manipulating classroom tools and self-care. Those students may need significant help with all day-to-day tasks or may work independently. Physical movement obstacles affect a lot of students with disabilities, making it

difficult for them to move around the school and classroom safely, move and position themselves to learn, manipulate and use learning materials, access or engage in curriculum activities, and perform personal care tasks. They need to adapt or adjust the classroom space [check the classroom, doorways, and toilets are easy to access, keep the classroom free of clutter, and create space in class for equipment and technology], classroom program [Use worksheets to reduce the quantity of writing that needs to be done, provide students with choices for how to show and express their knowledge on a subject, provide alternatives to physically demanding tasks, and involve all students in all school-related activities], provide extra time for the complete task, rest, move around the classroom, use technology and equipment [allow students use pc, tablet to present idea, check if assistive technology is needed and use], and focus on personal care check if pain issues and find out how they are managed (¯a-Tinana, 2015).

2.9 Important of curriculum adaptation

Curriculum adaptation is quite significant, especially for SWDs (Muzata & Mahlo, 2019). According to Msomi (2020), CA is an important ideological tool that enables learners with diverse learning difficulties to obtain access to and progress in the general curriculum and aimed at the promotion of inclusive education. Students benefited from teachers' use of CA. Some are given the chance to be involved and enthusiastic about their studies; more chances to build social-emotional competencies with classmates and instructors; to develop persistence and problem-solving abilities as they interact with materials and content; to master content when they're ready, fostering a sense of self-worth and accomplishment; and to apply content in interdisciplinary contexts.

2.10 Challenges of teachers' curriculum adaptation in inclusive classroom

Understanding how to adapt instruction and teacher practices to meet the varied needs of whole students can be challenging (Smale, 2019). There are many challenges to an inclusive curriculum. Those are: lack of clear objectives and significant resources for the students, usually children with special needs need more time to learn or to write but (usually do not get extra time; rather they are rebuked for not being able to complete the work in time) (Mishra etal., 2019), large number of learners in a class and teachers lack knowledge of CA like how to arrange their classrooms to provide support to those learners experiencing diverse learning difficulties. Due to this, the school found it difficult to implement curriculum adaptation because of under-resourced (training, time, space, and educational materials) and under-supported (by school management and parents) (Simangele, 2020), because preparing training regular teachers in inclusive

education can be crucial if they are to have the knowledge, skills, and understanding (Ozel et al., 2018), more than 70 learners in a classroom are being taught in secondary classrooms in Ethiopia. As a result, there is a shortage of textbooks, reference books, and other school facilities (Girma, 2007), and some of the teachers are not adapting the curriculum to meet the needs of all learners. Because of the size of the classes, lack of resources as well as a lack of training and knowledge necessary to support these students (Adewumi et al., 2017),

General education educators and education experts have limited training in curriculum adaptations. So training is needed for educators to understand why they need to adapt the curriculum and how to do so (Nucci, 2019). General education educators provided adjust that were poorer clarity and quality (Keegan, 2012), teachers lacked awareness about instructional materials for inclusion (Coşku et al., 2009), and teachers do not trends and practice to prepare individualized educational plans/IEP/ for learners with special needs because the school's expectation is the same for all students, narrow class sizes and desks put very close to each other are barriers for teachers adapt classroom setting (Mitiku et al., 2014).

2.11 conceptual frameworks

The curriculum that is utilized in inclusive schools is modified, to meet the needs of the pupils. Teachers adapt the curriculum based on the results of the pre-assessment of the child's level of ability/readiness to learn, the learning interest of the student, the learning styles, and prior knowledge. So, teachers find out the students' level of ability. The level of learning ability of each child is divided into three, among others: a) independent level, b) instructional level, and c) frustration level. After understanding the student's level of learning ability the teacher decides on the curriculum adaptation which is either modification or accommodation of the curriculum (Andini et al., 2020). During this time the teacher remembers which types of CA are available from nine types [quantity, time, level of support, input, difficulty, output, participation, alternate goals, and substitute curriculum] (Diana, 2005). This diction provides effective opportunities for SWDs-based key principles including setting suitable learning challenges, responding to children's diverse learning needs, and overcoming potential problems in learning (Paavizhi & Saravanakumar, 2018). The teacher plans the content. This plan may be for whole class, small group, peers, and or individuals based on the above dictions and then evaluate the progress of the learner in formative and summative assessment and recovery pre-assessment of learner learning

profile. Teachers who implement CA in inclusive schools effectively face different challenges some of this limited training on CA, lack of time, and limited of significant resources for the students (Mishra et al., 2019). The detail descriptions of teachers practice and challenges of CA are showing the following figure.

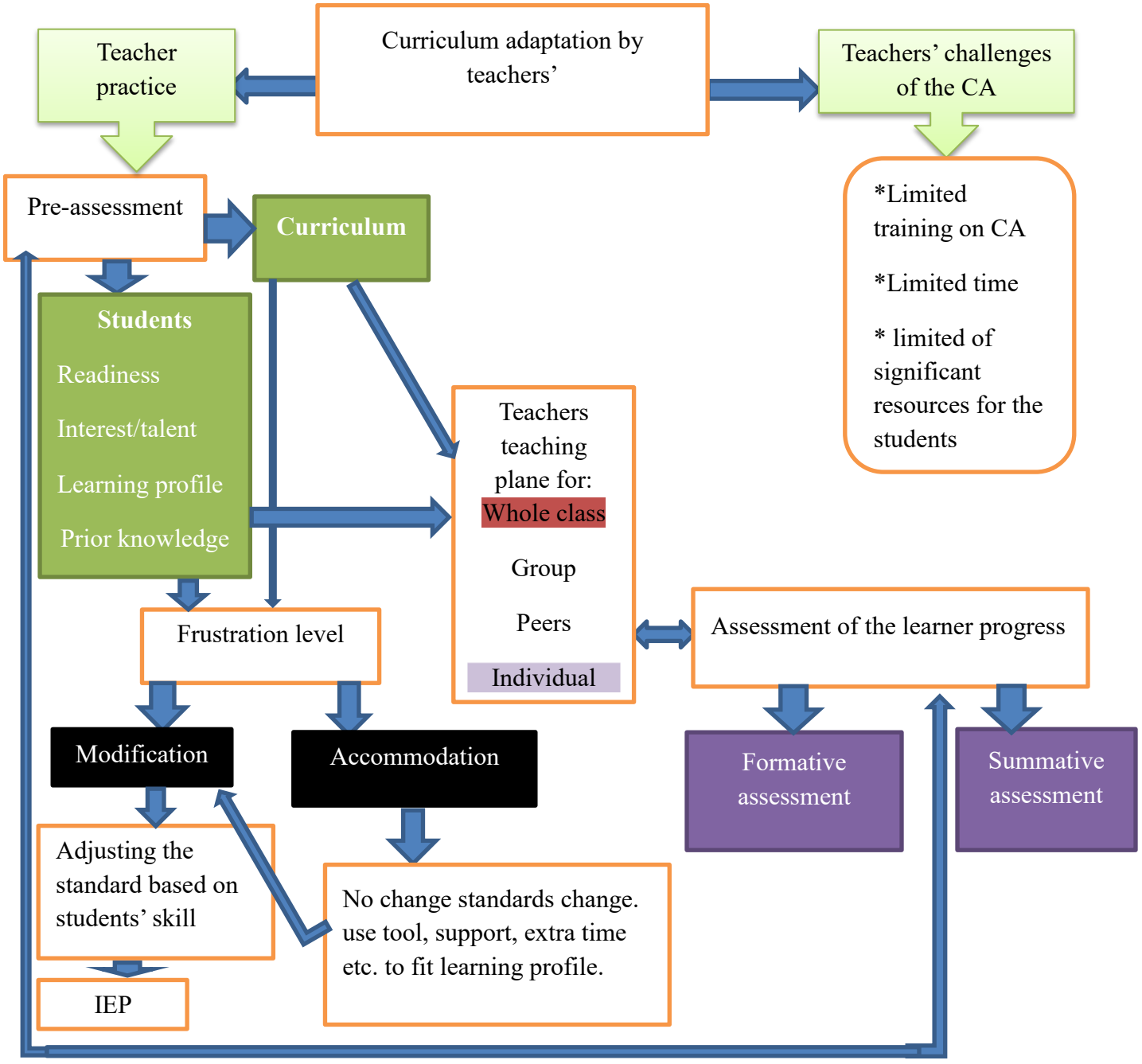

Figure 2.1 Teachers' practice and challenges of CA

CHAPTER THREE

3. Methodology

3.1 Introduction

This chapter dealt with the explanation of the research methods that were employed in the study. The content of this section dealt with the explanation of the study area, research approach, research design, population and target population, data collection instruments, data collection procedures, data analysis mechanism, and ethical consideration.

3.2 The study area

This study was conducted in Debre Birhan Town. In the Town, there are nine governmental, two privates, and one boarding a total of 12 secondary schools. Among these schools, the researcher purposively selected two government secondary schools, namely Debre Birhan General Secondary School and Haile Mariam Mamo Secondary School. Because these schools are regarding the numbers of SWD more practiced and implemented IE by teaching both students with and without disability in the same classroom than other secondary schools.

3.3 Research approach

The research approach is a strategy and process that contains the stages of broad expectations to detailed approaches of gathering, analyzing, and interpreting data (Grover, 2015). Mixed methods study is possible to define research as a process that revolves around the collection of both qualitative and quantitative data, their analysis, and the integration or combination of the two datasets (Creswell et al., 2008). The study used a mixed-method approach. In a mixed approach, the quantitative approach allows a researcher to collect the data from a large quantity of participants; thus, growing the opportunity to generalize the findings to a much wider population. Also, a qualitative approach helps the researcher provides a deeper understanding of the problem being investigated and respects the voice of individuals.

3.4 Research Design

Research design is a blueprint for data collection, measurement, analysis, interpretation, and reporting of conclusions (Grover, 2015). The study was embedded concurrent mixed methods design that employed primarily a quantitative method and was substantiated by the qualitative

method. An embedded compound methods design was one in which the quantitative methods supported by the qualitative methods were used to answer research questions in a single study (Almeida, 2018). By using a one-phase data collection approach in researcher can triangulate quantitative and qualitative data to gain a more comprehensive understanding of the curriculum adaptations practice and challenges faced by teachers in selected secondary schools.

3.5 The study population and target population

3.5.1 Population of the study

According to Shukla (2020), population is the set or group of all the units to which the findings of the research are to be applied. The population of the study included 192 teachers (132 male and 60 female), sex male principals, 3320 SWODs (1300 male and 2020 female), and 28 SWDs (21 male and seven female) found in both Debre Birhan General secondary school and Haile Mariam Mamo secondary school. The total population (principals, teachers and students with and without disabilities) of the study was 3546.

3.5.2 Target population and sampling technique

A target population is a complete set of individuals, cases, or objects with some common observable characteristics which the sample is drawn from (Mugenda & Mugenda, 2003) cited by (Mwaimba, 2014). The target population of the study where three male principals, 60 (51male and nine female) teachers, 10 (eight male and two female) students with visual impairment (SVI), sex (four male and two female) students with hearing impairment (SHI), and four (three male and one female) students with physical disabilities found in Haile Mariam Mamo secondary school and 3 male principals, 18 (10 male and 8 female) teachers and eight (six male and two female) students with visual impairments in Debre Birhan General secondary school. Generally, there were six male principals, and 28 (21 male and seven female) SWDs was selected census methods, and 78 (57 male and 11 female) teachers were purposively selected out of 196 teachers because all 78 teachers teach SWODs and SWDs in the same classroom. However, the remaining 114 teachers teach only SWODs because the number of SWDs limited in number and does not address all grade levels as well as all sections. A total of 112 participants were participated from two schools.

3.6 Data collecting instrument

The study gathered data from teachers, principals, and SWDs on curriculum adaptations by teachers to ensure IE by using an instrument of Questionnaires, Interviews, FGD, and Observation.

3.6.1 Questionnaire

A questionnaire was used to collect data from 78 teachers about to what extent do teachers engage in curriculum adaptation to ensure IE and the challenges faced by teachers in using CA to ensure IE. The questionnaire is relatively quick it's a very economical time-saving process, and it covers the research in a wide area (Pandey, 2015).

The questionnaire was designed in English language with seven open-ended and 53 closed-ended questions, for a total of 60 questions in three sections from different literatures. Section one has seven questions having four alternatives to choose form and three blank space questions that view the background information of participated teachers; Section two has 28 questions with three levels of scales including 1= Not at all, 2 = Partially, and 3 = Fully and has four domains including adaptations of strategy [7 items], material [7 items], content [8 items], and assessments [6 items] to collect data about the research question to what extent do teachers engage in curriculum adaptation to ensure IE, and section three have 21 dichotomous questions [Yes or No] and two Yes or No questions with explanations to collect data about the challenges faced by teachers in using CA to ensure IE, and there were two open-ended questions for additional information and other suggestions about challenges faced by teachers' when applying curriculum adaptation.

3.6.2 Interview

An interview was used to collect data from six principals' about curriculum adaptations by teachers to ensure IE. I have developed seven semi-structured interview questions. Because semi-structured interview questions help, based on the answers of the interviewees, the researcher asks questions when interviewers need extra information (Taherdoost, 2021). This interview has two sections, including background information on the participants' and teachers' practice and the challenges faced in implementing curriculum adaptation. An interview, which takes approximately 10 to 20 minutes, was conducted on a one-to-one basis.

The interview was prepared in English. Before conducting the interviews, the respondents were given information about the purpose of the study to ensure their understanding of the research topic. The researcher also took ethical considerations into account by assuring the respondents that their participation in the study would not result in any harm to them.

3.6.3 Focus Group Discussion

Focus group discussion (FGD) is a method for collecting qualitative data that gathers community individuals together to discuss a specific topic (UNICEF, 2020). FGD was used to collect data from 28 SWD about the current practice of CA in inclusive schools. The FGD had eight structured questions and sub-topics of discussion. The FGD questions were prepared first in English and translated into the participant's mother tongue (Amharic) language and using a sign language interpreter teacher for students with hearing impairment. The study selected FGD to strengthen the data gathered through questionnaires. Because FGD helps to identify and clarify shared knowledge among groups and communities on a given topic which would otherwise be difficult to obtain with a series of individual interviews (Van Eeuwijk & Angehrn, 2017).

The study was created in three groups from two selected schools; from these groups, each group was symbolized in group 1, group 2, and group 3. Group 1 has eight members which include sex male and two female SVI created from Debre Birhan Secondary School (DBSS), group 2 has ten members which include six (four male and two female) SHI and four (three male and one female) students with a physical disability, and the last one group 3 has eight male and two female the total of ten SVI created from Haile Mariam Mamo Secondary School (HMSS), The study was conducted with each group approximately 30- 40 minutes. An FGD will usually take around one hour and should include a minimum of eight and a maximum of 12 participants (UNICEF, 2020).

3.6.4 Observation

The study used observations to collect data about curriculum adaptation to ensure IE. I gathered first-hand accurate information by preparing an observation checklist within two days for each selected school. Data obtained through observation are more real and true than the data collected by any other method (Pandey, 2015).

During observation, I focused on CA issues including school environment, the arrangement of the classroom, classroom management**,** instructional strategies used by the teacher, student engagement, how the teacher differentiates instruction to meet the needs of diverse learners' styles, how the teacher adapts the curriculum to meet the needs of diverse learners, how the teacher incorporates technology into the curriculum to enhance student learning and engagement, flexibility and responsiveness, and the assessment and feedback of teachers.

3.7 Data Collection Procedure

The procedure of data collection was done in the following ways. Firstly, the researcher requested a support letter from Debre Birhan University Social Science College, Department of Psychology to contact the concerned bodies in the schools to discuss the required data needed for the research. The researcher also identified the teachers and other concerned bodies of the respondents, whose target populations. After selecting the participants, I prepared questionnaires, interviews, FGD, and observation guide questions. After preparing the instruments, the issues of validity and reliability were critical. Therefore, to ensure the validity of the instrument checked by four PhD and one MA who is a language expert a total of five professionals. From these professionals are given to me relevant corrections in number of items and language editing. I corrected the instruments based on the comment. Similarly, the reliability of the study was confirmed in a pilot study using participants who did not participate in the actual study but had the same characteristics.

The qualitative data was triangulated with one another. Regarding the challenges faced by teachers using CA, I first used an open-ended questionnaire in a pilot study for teachers and students with disabilities. When the participants listed the problems, they were changed to a list of "yes" or "no" choice questions during the actual study. I also used an open-ended question that allows participants to express their additional opinions so that they are not limited to questions. After that, I distributed questionnaires to teachers and conducted interviews with SWDs in FGD, with school principals, and observed relevant points; Finally, I collected questionnaire papers from participants and went through another process of the study.

3.8 Pilot Study

Before administering the instruments of data collection, it was very essential to validate the tools as it gives the first chance to comment and check their clarity.

The issues of validity and reliability are critical in research. Therefore, to ensure the validity of the study, the content and the representativeness of the items were checked by five professionals and advisor. Similarly, the reliability of CA teachers' questions was confirmed by teachers of Basso High School. The pilot study was conducted with 18 teachers teaching SWDs and SWODs in the same classroom. According to DeVellis (2012), cited by Pallant (2020) good internal consistency with a Cronbach's alpha coefficient reported of .7. In the current study the Cronbach's alpha coefficient of instructional strategy [7 items] was .701, material [7 items] .707, content [8 items] .702, and assessment [6 items] .710. the total 28 items of the Cronbach's alpha coefficient were .732. The standardized Cronbach's Alpha Reliability Coefficient Score Test (0.732) was used.

3.9 Data Analysis Mechanism

The study used both quantitative and qualitative data analysis. The data collected from teachers through a questionnaire in a closed-ended question guide was analyzed quantitatively by using descriptive statistics help by Statistical Package for the Social Science (SPSS version 27) in terms of mean score, frequency, and percentage. The first part of the research question of this study was to what extent do teachers engage in instructional strategy, material, content, and assessment adaptation to ensure IE. The level of agreement of respondent teachers engaged in CA was assessed on a series of 28 items. These items are divided into four subcategories, which are instructional strategy (7 items), materials (7 items), content (8 items), and assessment (6 items). The mean score of each attribute was computed to assess the variations in the respondent's feelings. The scale was classified as Low, Moderate, and High depending on the scoring. As such scores between 1 and 1.66 were classified as low, between 1.67 and 2.33 were classified as moderate whereas between 2.34 and 3 were classified as high level.

Also, an independent sample t-test was used to test for statistically significant differences in the mean scores of variables between the two schools. Also, used Eta squared to show the magnitude of difference between two groups (effect size). $\boldsymbol{Eta\ squared} = \frac{t^2}{t^2+(N1+N2-2)}$ where, t= the calculated t-test, N1= number of subjects in group one and N2= number of subjects in group two Cohen, (1988) cited by Pallant (2020).

Additionally, 21 items regarding challenges faced by teachers in using CA to ensure IE was analyzed in frequency and percentage. All the qualitative data were collected through school principals, SWDs, observation, and open-ended question guide questionnaires from teachers' data analysis narrative explanations were used thematically. Finally, to make the findings more momentous and disseminate to stakeholders' conclusions and recommendations are given as per the need and usage.

3.9 Ethical consideration

Ethical concerns among other things constitute the principles of privacy, informed consent, confidentiality, protection from harm, and avoiding deception Simons (2005) cited by (Pandey, 2015). These principles were applied in this study. For this study, the name of the participants was protected or remained anonymous. Numbers were assigned to each participant for identity protection. In this research, the researcher understood critical consideration of ethical issues since the study involved the interaction of the investigator and participants of the study. Participants of the study participated in the study voluntarily.

CHAPTER FOUR

4.1 Overview

This section focuses on the analysis of data gathered from teachers, principals, and different types of students with disabilities. In the analysis of the data both quantitative and qualitative methods were employed. The data collected through the questionnaire was analyzed using statistical tools and data collected through interviews, FGD, and observation have been completely analyzed and presented qualitatively which demonstrates the levels of engagement and challenges of teachers in CA.

4.1.1 Results of the study

4.1.2 Demographic information of teachers

Table 4.1: *Background Information of Teacher Participants of the Study*

Variables		DBSS		HMSS	
		N	%	N	%
Sex	Male	10	12.8	51	65.4
	Female	8	10.3	9	11.5
Age	Below 24 years	2	2.6	-	-
	25-34 years	2	2.6	-	10.3
	35-44 years	9	11.5	21	26.9
	45+ years	5	6.4	31	39.7
Teaching experience only in the study area	1-3 years	4	5.1	10	12.8
	4-6 years	6	7.7	12	15.4
	7+ years	8	10.3	38	48.7
Educational status	Degree	9	11.5	16	20.5
	Masters	9	11.5	44	56.4

Note. N=78 [eighteen from DBSS and sixty from HMSS] participants.

As Table 4.1 in the previous page indicates, ten (12.8%) and fifty-one (65.4%) of the participants of Debre Berhan Secondary School (DBSS) and Haile Mariam Mamo Secondary School (HMSS) were male respectively. While DBSS eight (10.3%) and HMSS has nine (11.5%) female participants. The age distribution of the respondents of DBSS, two (2.6%) are below 24 years, 2(2.6%) are 25-34 years, 9(111.5%) are 35-44 years, and 5(6.4%) are above 45 years and HMSS has 8(10.3%) of 25-34 years, 21(26.9%) of 35-44 years, and 31(39.7%) of above 45 years of the participant. The data implies that the majority of teacher respondents were in the age range of 35-44 years in DBSS and above 45 years in HMSS.

Additionally, in DBSS participants 8(10.3%), 6(7.7%), and 4(5.1%) are above seven years, 4-6 years, and 1-3 years of work experience respectively only in the study areas. Whereas HMSS participants 38(48.7%) are above 7 years old, 12(15.4%) are 4-6 years old, and 10(12.8%) have 1-3 years of experience in the study area. The educational status of Debre Birhan Secondary school participants is 9(11.5%) degree and 9(11.5%) master. Whereas, HMSS has 44(56.4%) master and the reaming 16(20.5%) is degree. In both schools most participants of sex are male, and also teaching experiences in the study area were above 7 years. In Debre Berhan Secondary School, the majority of participants are in the age range of 35-44 years and above 45 years in Haile Mariam Mamo Secondary School.

4.1.3 Demographic information of school directors

Table 4.2 *Background Information of Directors Participated in Interview*

Participants	Sex	Age	Experience only study area	Level of education	Responsibility	Working area
Participant 1	M	55	8	Master	Principal	DBSS
Participant 2	M	36	6	Master	Vice Principal	DBSS
Participant 3	M	39	1	Master	Vice Principal	DBSS
Participant 4	M	41	7	Master	Principal	HMSS
Participant 5	M	35	5	Master	Vice Principal	HMSS
Participant 6	M	32	7	Master	Vice Principal	HMSS

Note. School directors participated in interviews.

As indicated in Table 4.2, all six participants held Master's Degree. Three directors from DBSS were one principal, two were vice principals, and three directors from HMSS one was principals and two were vice principals who participated in the study. All of them are male, ages ranged from 32 to 55, and experiences ranged from 1 to 8 years.

4.1.4 Demographic information of students with disabilities

Table 4.3 *Background Information of SWDs Participated in FGDs*

Grade Level	DBSS			HMSS											
	SVI			SVI			SHI			Physical disability					
										L.I			H. I		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
9	1	2	3	1	-	1	2	2	4	3	-	3	-	-	-
10	1	-	1	2	1	3	2	-	2	-		-	-	1	1
11	-	-	-	3	-	3	-	-	-	-	-	-	-	-	-
12	4	-	4	2	1	3	-	-	-	-	-	-	-	-	-
Total	6	2	8	8	2	10	4	2	6	3	-	3	-	1	1

Note. SVI = students with visual impairment, SHI = students with hearing impairment, LI = students with leg impairment, and HI = students with hand impairment.

As indicated in Table 4.3, the total participants of the study were 28 (21 males and seven females). We can observe types of disability eighteen students with visual impairments (SVI) 14 males and four females, six students with hearing impairments (SHI) four males and two females, and four students with physical disabilities three males and one female. Also, when I examine the class level of the participants, they are 11 from ninth grade, seven from tenth grade, three from eleventh grade, and seven from twelfth grade.

I tried to analyse based on study areas separately, in DBSS only eight (six male and two female) SVI participated. Whereas in HMSS ten (eight male and two female) SVI, six (four male and two female) SHI, and four (three male and one female) students with physical disabilities a total of 20 students are participated.

4.2 Results of questionnaires obtained from teachers.

The research question on to what extent do teachers engage in curriculum adaptation to ensure inclusive education was analysed at the overall levels and in item level of implementations of strategy, material, content, and assessment adaptation.

Table 4.4 *Results of Overall Levels of Teachers' Implementations of CA*

No	Items	Mean	SD
1	Curriculum adaptation [strategy, material, content, and assessment].	1.85	.23
2	Instructional strategy adaptation	1.94	2.16
3	Material adaptation	1.59	1.89
4	Content adaptation	1.72	.34
5	Assessment adaptation	2.25	.37

Note. Analysis of the overall levels of teacher's implementations of CA.

As indicated in above Table 4.4, participant teachers agreed that the overall levels of teachers implementing curriculum adaptations were moderate (M=1.85, SD=.23). In the above Table items 2, 4, and 5 mean scores are 1.94, 1.72, and 2.25 respectively. This mean score indicated that the overall levels of teachers implementing the majority of aspects such as instructional strategy, content, and assessment adaptations were moderate. Whereas, regarding material adaptation, the overall level of implementations was lower (M = 1.59, SD = 1.89).

4, 2.1 Instructional strategy adaptation by teachers to ensure IE

Table 4.5 Results of instructional strategy adaptation

No	Items	Mean	SD
1	I adapt the rules of school based on students' skill levels and problem types.	2.07	.64
2	Students are given tasks according to their level.	1.75	.67
3	I offer extra time to students who do not finish a task in the set time.	1.92	.62
4	I give enough time for students to prepare for tests and final exams in my subject.	2.06	.96
5	I prepare an individual education plan (IEP) for learners with special needs.	1.14	.39
6	I prepare a lesson plan for whole students.	2.52	.57
7	I use a variety of small groups.	2.15	.60
Mean		1.95	2.17

As indicated in Table 4.5 on the previous page, the respondents recorded that teachers' implementations of instructional strategies adaptations including a total of seven items are moderate level (M=1.95, SD 2.17). Although the overall level of strategy adaptation is moderate every seven items have various levels of adaptation.

The respondents agreed that only one item namely preparing an individual education plan (IEP) for learners with special needs lower level of adaptation (M=1.14, SD=.39). Whereas students are given tasks according to their level (M=1.75, SD=.67), offering extra time to students who do not finish a task in the set time (M=1.92, SD=.62), giving enough time for students to prepare themselves for tests and final exams in my subject (M=2.06, SD=.96), adapting the school rule based on students skill level and problem type (M=2.07, SD=.64), and using variety of small groups (M=2.15, SD.60) are implemented as moderate level. Regarding preparations of a lesson plan for whole students implemented at a higher level (M=2.52, SD=.57).

Similarly, the researcher interviewed school principals and students with disabilities in FGD regarding strategy adaptation. The school principals were asked do their school rules and regulations consider all students' backgrounds, especially SWDs, and if the mid and final exam program considers all students' learning abilities.

> *The schools have different rules. Such as students cannot exit and enter except during standard time, cannot enter without wearing a uniform, students cannot exit from their class except braking time, etc. However, these and other related rules do not apply to SWDs. Also, the test and final exam program are done on separate days* (Principal 3). *The test program is developed by subject teachers, while the final exam programs prepared by the school level depend on the Education Department of Debre Birhan Town. Due to this, the programs may contain two to four subjects per day. This situation may not give the students enough time to prepare for the exam (*Principals 1, 2024).

They were asked are the teacher's teaching strategies in the classroom safe for them.

> *Teachers use mostly lecture methods and treat all students in the same way. They focus on finishing the content and do not care whether we understand or not. Furthermore, the tasks given to us are not based on our abilities, but based on the textbook content* (Students' Focus Group1, 2024).

Teachers usually used a teacher-oriented teaching method but occasionally gave individual and group tasks. However, the group was randomly based on the order of our numbers and the location of the seating. During this time the activities are different. However, activities are distributed by chance rather than considering students' learning abilities. Even so, they try their best to help students with special needs. As part of their efforts, they try to speak out loud and write notes on the board about what they say orally. They added that, although teachers try to help us, teaching and learning are not convenient for students with hearing impairment due to the lack of sign language and hearing aids (Students' Focus Group 2, 2024).

Students with visual impairments are limited in their participation in classwork and homework activities because teachers are unable to read and write Braille. Consequently, these students primarily engage in group discussions. However, during this time teachers do not allow extra time. (Students' Focus Group 3, 2014).

Also, I observed the teacher's classroom teaching strategy. Teachers directly start the lesson without classroom arrangement after the greeting. Of course, students have a constant setting place and have small groups created before. These groups included both SWDs and SWODs in a group. Teachers have a lesson plan for whole students. But not guided by a prepared plan. Also, the lesson plan does not show alternative tasks for students who have either the highest or lowest learning abilities as well as different learning profiles. Teachers teach similar content focused on lecture methods. Also, the classroom was clean, had enough light, and was partially safe for SWD move.

4, 2.2 Material adaptation by teachers to ensure IE

Table 4.6 Results of levels of materials adaptation

No	Items	Mean	SD
1	The school has adequate educational materials.	1.89	.52
2	The school has a resource bank for students who need it. (e.g., a loan of an exercise book, a guidebook, textbooks, a recorder, etc.)	1.80	.63
3	I use alternative teaching resources that respond to all students' needs	1.80	.58
4	I use a computer during my lesson	1.17	.45
5	I use audio tapes, large print, and textbooks written in Braille to encourage students with visual impairments to learn independently.	1.08	.37
6	I use materials that can be seen and tactile.	2.15	.70
7	I have an adaptation guideline from my school.	1.23	.53
Mean		1.59	1.89

Note. Levels of material adaptation by teachers to ensure IE.

As can be seen from Table 4.6 above, respondents regarded teachers' adaptability of materials as low in three dimensions. Those include the use of audio tapes, large print, and textbooks written in braille to encourage SVI to learn independently (M=1.08, SD=.37), using a computer during the teaching-learning method (M=1.17, SD=.45), and having adaptation guideline from my school (M=1.23, SD=.53). Regarding the item *We are using the new textbook now, so we don't have any adaptation manuals guidelines and textbooks. In addition, the curriculum is new so we can't use the assets we have, and due to the lack of computers with Jaws and lack of Special Needs experts, the SVI doesn't learn information technology (IT)* (Principle 1). The researcher observed that the school has a storeroom and a library, which has textbooks written in braille and a teacher's guide for each grade level. But all the materials are not used in this year's due to the change of the textbook. In addition, the school does not have special materials to support SHI also teachers do not use computers in the teaching-learning process. However, Labe class SHI and students with physical disabilities learn IT as SWODs. On the other hand, moderate levels of adaptations implemented on the other four items which include; the school having adequate educational materials (M=1.89, SD=.52), the school having a resource bank (M=1.80, SD=.63), teachers using alternative teaching resources that respond to all students' needs

(M=1.80, SD=.58), and teachers use materials that can be seen and tactile (M=2.15, SD=.70). Also, in my observation, there are some teaching materials listed in the teacher lesson plan. However, the teacher did not bring the materials listed in the lesson plan and did not use them. Similarly, the researcher interviewed principals and students with disability in FGD regarding material adaptation. I asked for principals, what resources and supports are available at your school site to enable you to better meet the learning needs of all students, especially SWDs. Are there curriculum adaptation guidelines at the school level?

> *Over the years we have been on a General Education Quality Improvement Program (GEQIP) budget, so we used to buy some essentials. But this year, GEQIP has been discontinued, so we have a problem even with paper* (principal 2, 2024). *SWDs do not pay 800 birrs for registration this is a mechanism for helping SWDs* (Principal 4, 2024).
>
> *In addition to the new curriculum this year, the budget cut compounded the problem. The textbooks can't come, and we don't have the budget to provide copies. We also give a soft copy on their Flash and smartphone to solve this problem* (Principal 6, 2024)
>
> *Additionally, at the school level, we give different support for students with and without disabilities. Such as giving uniforms to students who have low income [Have no uniform], SWDs not pay 600 birrs during registration. But SWODs pay these 600 birrs during registration. In addition, we have given a container for housing for one SWD who is in great economic difficulty* (Principal 3, 2024).

I asked questions to students with disabilities. Does your school have enough learning materials? Can you borrow from your school if you don't have one?

> *The school doesn't have enough supplies. Especially this year, there are no Braille papers, voice recorders, or textbooks written in Braille* (Students' Focus Group 1, 2024).
>
> *There are no textbooks and a speaker device prepared in sign language. In addition, most teachers do not use teaching materials except in the biology lab classroom; instead, they use a variety of visible and tangible materials during the biology lab.* (Students' Focus Group 2, 2024).

The school lacks essential materials. For example, there are no special needs experts, computers with Jaws, tape recorders, Braille paper, and tactile materials used by teachers for teaching. However, we can borrow and use materials by giving our school ID when the materials reach the library. Related to this, SVI does not learn information technology. (Students' Focus Group 3, 2024).

4, 2.3 Content adaptation by teachers to ensure IE

Table 4.7 Results of the levels of content adaptation

No	Items	Mean	SD
1	The lesson involves the fundamental concepts of the subject.	2.73	.55
2	The lesson is adapted to the student's abilities.	1.80	.58
3	I reduce the amount of content if my student has low learning ability.	1.61	.69
4	I replace tasks/content when the content is difficult.	1.43	.69
5	If the course is not balanced with the needs of students, I will omit the task.	1.38	.56
6	I have extra tasks for students who finish tasks early.	1.76	.62
7	Different students learn the same content at the same time in different formats.	1.67	.75
8	Different students work on different tasks at different levels of difficulty.	1.34	.59
Mean		1.72	.34

Note. levels of teachers' implementations of content adaptation.

As Table 4.7 indicates, the overall level of teachers' practice of adaption of contents to ensure inclusive education was moderate (M=1.721, SD=.34). Although the overall levels of content adaptation were moderate, participated of teachers side that, different students worked at different levels of difficulty (M=1.34, SD=.59), omitting the task (M=1.38, SD=.56), replacing the task (M=1.43, SD=.69), and reducing the amount of content (M=1.61, SD=.69) are implemented in lower level. On the other hand, while different students learn differently at the same time (M=1.67, SD=.75), giving students who have already completed assignments an additional task (M=1.76, SD=.62), adapting the contents to the student's abilities has been implemented to a moderate extent.

In addition, regarding the question of whether "the lesson is the fundamental concept of the subject", the respondents stated that it was applied at a higher level (M=2.73, SD=.55). Similarly, the researcher interviewed students with disabilities in FGD about content adaptation. I asked a question, do your teachers teach a subject that fits your skills?

> *Usually, almost all class activities are the same, but sometimes teachers give different assignments during group work and individual tasks (in group 1, 2024). We learn the same content based on the textbook. Nothing to reduce or add, and to replace. However, if the subject has a calculation component, we leave the class and do other tasks (group 3, 2024). Although not all, teachers are guided by the content of the book to decide what to teach rather than the needs of the students* (Students' Focus Group 2, 2024).

I observed classroom teaching practice, teachers used the same contents simultaneously in the same ways for different students. There were no CA indicators like adding, reducing, omitting, replacing, and not adapting format.

4, 2.4 Assessment adaptation by teachers to ensure IE

Table 4.8 Results of the levels of assessment adaptation.

No	Items	Mean	SD
1	I use various tools to evaluate learning.	2.54	.59
2	My assessment is based not only on the final grade but also on evaluations for assessing student progress.	2.60	.57
3	I check my students' previous abilities by asking questions.	2.67	.52
4	I allow the student to respond to questions in writing or verbally based on my student's needs.	2.29	.63
5	I modify the test format, like a multiple-choice test provided for some students on the same questions, while a fill-in-the-blank test is prepared for others.	1 .52	1.25
6	I shortened the length of the test/tsk based on students' abilities.	1.88	.77
Mean		2.25	.37

Note. The level of teachers' implementation of assessment adaptation in selected schools.

As seen in Table 4.8, the study conducted to measure the levels of assessment adaptation using six items showed moderate implementation (M=2.25, SD=0.37). Respondents agreed that the test format adjustment was implemented at a lower level (M=1.52, SD=1.25). Preparing short tests and allowing students to respond to the questions in a variety of ways was moderate (M=2.29, SD=0.63). However, respondents had higher levels of adaptation on the other three aspects of assessment adaption which include; using various tools to evaluate learning (M=2.54, SD=.59), using the assessment of both the final grade and evaluations for assessing student learning progress (M=2.60, SD=.57), and checking students' previous ability by asking questions (M=2.67, SD=.52). The researcher observed that teachers assessed their prior knowledge by asking their students verbal questions. For the most part, most teachers use verbal responses to their students' activities.

> *Teachers perform assessments orally, in writing, in groups, and individually. However, they use the same content and format during the mid and final exams* (Students' Focus Group 2, 2024).

> *Some teachers prepare tests that do not take SVI into account. When the exam has calculations, they do not prepare another substitute question for SVI; At this time, the previous test will duplicate. Some other teachers tell us that there is a test and when we are ready, we are left untested due to the lack of readers. Then the date is changed or the test is left and the taken test is multiplied* (Students' Focus Group 3, 2024).

> *Teachers use different assessment ways and give extra time to complete the test, however, the test is not comfortable for SVI due to the reader, because some readers can't read perfectly, and some others, do not voluntarily repeat the question* (Students' Focus Group 1, 2024).

The principals, ask them what the rules of your school are related to the exam.

> *Recognizing that there is a reader problem during the summative exam, we assign readers from English and Social science teachers* (Principal 5, 2024).

4.3. Instructional strategy, material, content, and assessment adaptation by teachers to ensure IE in two distinct areas

Table 4.9 *Mean Comparing Independent Sample t-test Results of CA on Two Distinct Areas*

Variables	Group	M	SD	Sig.	t	df	Sig. (2-tailed)	M diff.	95% confidence intervals of diff.	
									Lower	Upper
Strategy	DBSS	2.07	.37	.103	1.95	76	.055	.16	-.003	.32
	HMSS	1.91	.28							
Material	DBSS	1.67	.31	.44	1.43	76	.16	.10	-.04	.25
	HMSS	1.57	.26							
Content	DBSS	1.85	.37	.29	1.93	76	.058	.17	.01	.35
	HMSS	1.68	.32							
Assessment	DBSS	2.29	.35	.82	.81	76	.422	.07	-.10	.24
	HMSS	2.22	.32							

Note. P > .05.

An independent samples t-test was performed to evaluate whether there was a difference between the overall levels of instructional strategy adaptation of DBSS and HMSS. The results indicated that there was no significant difference between the overall levels of instructional strategy adaptation of DBSS (*M* = [2.07], *SD* = [.37]) and HMSS (*M* = [1.91], *SD* = [.28]) *t* [76] = [1.95], *p* = [.055]. So there is no significant difference between the two groups of respondents regarding the item. However, an independent *t*-test was conducted to compare the instructional strategy adaptations mean scores in a specific item level clearly described in Appendix F, in adapting the rules of the school and giving tasks according to their level were significant differences between the two schools. The other five items did not show significant differences between the two selected schools. This is the evidence that an independent samples *t*-test was performed to evaluate whether there was a difference between adapting the rules of the school of DBSS and HMSS. The results indicated that DBSS (*M* = [2.39], *SD* = [.61]) had significantly higher adapting the rules of school based on students' skill level and problem type than HMSS (M = [1.98], *SD* = [.62]), *t* [78] = [2.43], p = [.02]. However, the magnitude of the mean difference = .41 was moderate (eta squared = .07). Similarly, an independent samples *t*-test was performed to evaluate whether there was a difference between the student's given task according to their level of DBSS and HMSS. The results indicated that DBSS (*M* = [2.11], *SD* = [.73]) had

significantly higher students give tasks according to their level than HMSS (*M* = [1.67], *SD* = [.63]), *t* [78] = [2.22], *p* = [.029]. However, the magnitude of the mean difference = .39, was moderate (eta squared = .06). However, an independent samples *t*-test was performed to evaluate whether there was a difference between offering extra time to students who do not finish a task in the set time [p= .49] Giving students more time to prepare themselves for the exams [p = .81], preparing an IEP [p= .10], preparing a lesson plan for whole [p = .48], and using a variety of small groups [p = .92] of DBSS and HMSS. The results indicated that there was no significant difference between the two groups of respondent's responses among the items. (See Appendix F)

As indicated in Table 4.9 above, the overall levels of teachers' implementation of material adaptation were moderate. An independent samples t-test was performed to evaluate whether there was a difference between the overall levels of material adaptation of DBSS and HMSS. The results indicated that there was no significant difference between the overall levels of material adaptation of DBSS (*M* = [1.67], *SD* = [.31]) and HMSS (*M* = [1.91], *SD* = [.26]) *t* [76] = [1.43], *p* = [.16]. However, an independent samples t-test was performed to evaluate whether there was a difference between the separate items that measure the overall levels of material adaptation of DBSS and HMSS. clearly shown in Appendix G, results indicate that there were no significant differences between DBSS and HMSS most items, such as the school has adequate educational materials [P= .56], has a resource bank [P = .84], uses audio tapes and large print for SVI [P = .14], using seen and tactile material [P = .25], and have adaptation guideline [P = .36]. On the other hand, regarding using alternative teaching resources and using computers during the lesson there was a significant difference between the two schools. This is the evidence of independent samples *t*-test was performed to evaluate whether there was a difference between teachers using alternative teaching resources of DBSS and HMSS. The results indicated that DBSS (*M* = [2.00], *SD* = [.34]) had significantly higher teachers use alternative teaching resources than HMSS (*M* = [1.75], *SD* = [.63]), *t* [52] = [2.18], *p* = [.033]. However, the magnitude of mean deference = .25 was small (eta-squared .05). Similarly, an independent samples *t*-test was performed to evaluate whether there was a difference between using computers during the lesson of DBSS and HMSS. The results indicated that DBSS (*M* = [1.44], *SD* = [.62]) had significantly higher teachers using computers during the lesson than HMSS

(*M* = [1.10], *SD* = [.35]), *t* [20] = [2.26], *p* = [.035]. However, the magnitude of the mean difference = .34 was moderate (eta-squared = .06)

Also, an independent samples t-test was performed to evaluate whether there was a difference between the overall level of content adaptation of DBSS and HMSS. The results indicated that there was no significant difference between the overall level of content adaptation of DBSS (*M* = [1.85], *SD* = [.37]) and HMSS (*M* = [1.68], *SD* = [.32]) *t* [76] = [1.93], *p* = [.058]. However, an independent samples t-test was performed to evaluate whether there was a difference between separate items that measure the overall level of content adaptation of DBSS and HMSS. Clearly shown in Appendix H, only the "adapting the lesson" has significant differences between DBSS and HMSS, while the other seven items had no significant difference between schools. This is the evidence that the independent samples *t*-test was performed to evaluate whether there was a difference between the lessons adapted to DBSS and HMSS. The results indicated that DBSS (*M* = [2.06], *SD* = [.64]) had significantly higher the lessons are adapted than HMSS (*M* = [1.73], *SD* = [.55]), *t* [76] = [2.10], *p* = [.039]. However, the magnitude of the mean difference = .32 was small (eta-squared =.05). Oppositely, an independent samples t-test was performed to evaluate whether there was a difference between the lesson involving the fundamental concepts [p = .063], reduce the amount of task [p =.13], I replacing tasks or content [p= .66], omitting the task [p = .66], giving extra tasks for fast students [p = .18], different students learn the same content in different formats [p = .53], and different students work on different tasks [p = .22] of DBSS and HMSS. The results indicated that there was no significant difference between the two groups of participating teacher's responses.

An independent samples t-test was performed to evaluate whether there was a difference between the overall level of assessment adaptation of DBSS and HMSS. The results indicated that there was no significant difference between the overall level of assessment adaptation of DBSS (*M* = [2.29], *SD* = [.35]) and HMSS (*M* = [2.22], *SD* = [.32]) *t* [76] = [0.81], *p* = [.422]. However, an independent samples t-test was performed to evaluate whether there was a difference between separate items that measure the overall levels of assessment adaptation of DBSS and HMSS. As is evident in Appendix I: results indicate only preparing short test has significant differences between DBSS and HMSS, while the other five items such as using various tools to evaluate students [p = .78], the assessment is used to assess students' learning

changes and give them final grades [p = .94], checking students' previous ability by asking questions [p = .37], allowing the students to respond in several ways [p = .33], and modifying the test format [p = .72] were no significant difference between schools. In another way, an independent samples *t*-test was performed to evaluate whether there was a difference between preparing short tests or tasks of DBSS and HMSS. The results indicated that DBSS (*M* = [2.22], *SD* = [.81]) had significantly higher preparing short tests or tasks than HMSS (*M* = [1.78], *SD* = [.74]), *t* [76] = [2.16], *p* = [.03]. However, the magnitude of the mean difference = .44 was small (eta-squared = .05).

4.4 Challenges faced by Teachers when implementing Curriculum Adaptation to ensure IE

Table 4.10 Challenges faced by teachers when implementing CA

Items	Merged data			
	Yes		N o	
	N	%	N	%
The school rules are rigid.	44	56.4	34	43.6
I have no authority over my subject.	40	51.3	38	48.7
The exam program does not give time for reading	33	42.3	45	57.7
I have a time limitation.	53	67.9	25	32.1
I don't have time to allow extra time to students	51	65.4	27	34.6
Lack of training in the overview of IE	66	84.6	12	15.4
Lack of training in CA.	67	85.9	11	14.1
Lack of training on overview of SWD	65	83.3	13	16.7
I face difficulties identifying SWD	48	61.5	30	38.5
I face difficulties in identifying SWD learning profiles in my class.	47	60.3	31	39.7
I face difficulties identifying what areas may need to be adapted.	53	67.9	25	32.1
I face difficulties in deciding on either modification or accommodation	54	69.2	24	30.8
The school does not have adequate resources.	60	76.9	18	23.1
Lack of special needs experts.	69	88.5	9	11.5
Lack of tactile, auditory, large print, textbooks written in braille, etc. for students with visual impairments.	58	74.4	20	25.6
Lack of computer in jaws in the IT room.	70	89.7	8	10.3
Lack of textbook.	73	93.6	5	6.4
Lack of textbook or hand-out prepared in sign language for students with hearing impairments.	64	82.9	14	17.9
School infrastructure is not safe for students with disability.	56	71.8	22	28.2
Lack of separate accessible libraries for students with disability.	60	76.9	18	23.1

Continued ….

Items	Merge data			
	Yes		No	
	N	%	N	%
The library does not have enough reading materials in terms of appropriate grade levels and type of disability.	59	75.6	19	24.4
Large class size is one challenge in my school.	49	62.8	29	37.2
a large amount of textbook	47	60.3	31	39.7

Note: challenges faced by teachers when implementing CA.

As indicated in table 4.10, Challenges faced by teachers when implementing curriculum adaptation to ensure inclusive education were rigid school rules, shortage of time, lack of training, lack of understanding, inadequate resources, inaccessible infrastructure, large class size, and large textbooks are major problems.

1. Rigid school rule

The above-mentioned Table 4.10 shows many respondents 44(56.4%) agreed that the school rule is rigid. Only 34(43.6%) of teachers said that the school rules are flexible. As depicted in the above Table the majority of 40(51.3%) respondents assured that teachers have no authority for their subject. However, 38(48.7) participants said that teachers have authority over their subjects. This indicates the school rule does not allow teachers can reduce add, substitute, or omit the number of contents based on their student's learning profile. Also, 45(57.7%) of participants said the exam program issued by the school provides students with reading time. whereas, the remaining 33 (42.3%) of participants agreed that the exam program issued by the school does not provide students with reading time.

2. Lack of time

The majority of 53(67.9%) respondents indicated that teachers have time limitations. While only 25(32.1%) of respondents responded that teachers have enough time. Similarly, respondents 51(65.4%) agree that teachers do not give extra time for SWDs to complete their tasks. Whereas 27(34.6%) of respondents responded teachers give extra time for SWDs to complete their tasks.

3. Lack of training

The majority of respondents decide that teachers' lack of training in overview of IE, overview of CA, and overview of SWDs are challenges to implementing curriculum adaptation to ensure IE. 66(84.6%) of respondents responded that teachers' lack of training on the overview of IE is a

challenge for CA. In contrast, only 12 (15.4%) teachers said that lack of training in IE overview is not a challenge to implement CA. Most teachers of the respondents 67(85.9%) evidenced that teachers" lack of training in CA challenges to applying CA. For the same question, 11(14.1%) of respondents responded that lack of curriculum adaptation training is not a challenge to implement CA. On the other ways, 65(83.3%) of teachers said that lack of training on the overview of SWDs is a challenge in implementing CA, while 13(16.7%) of respondents did not agree.

School principals were asked “Dose you taken appropriate training on overview of CA”

> *When I was an undergraduate, I took a regular common course at the university. This is not enough to help SWDs effectively* (Principals 2, 2014). For the same question*, I have not taken any training at any time related to inclusive education and curriculum adaptation* (Principal 4, 2024).

4. Lack of understanding of the CA process

In terms of understanding the process of adapting the curriculum, most teachers, 48 (61.5%), said it was challenging to identify the type and level of disability among students, while the remaining 30 (39.7%) teachers indicated that they found it easy to identify these aspects. In the same way, most of the respondents 47(60.3%) agreed that teachers find it difficult to identify SWD learning profiles. Whereas 31(39.7%) of teachers said identifying the SWD's learning profile is not difficult. The identification of needed adapted areas based on learners' learning profiles was difficult for 53(67.9%) and not difficult for 25(32.1%) of respondents. Also, 54(69.2%) of teachers agreed that deciding on either modification or accommodation for SWDs based on their learning profile is difficult while the remaining 24(30.8%) did not agree.

5. Inadequate resource

Regarding resources, most of the respondents agree that the school does not have enough human and material resources to support and improve the curriculum. 60(76.9%) respondents said that the school has insufficient resources, 73(93.6%) lack textbooks, 70(89.7%) IT department lack of computers with Jaws, 69(88.5%) lack special needs specialists, 64(82.9%) Lack of textbooks prepared in sign language, and 58 (74.4%) said lack of tactile, large print, and textbooks written in Braille. Whereas for the same question on the contrary, 5(6.4%) the school has enough

textbooks, 8(10.3%) IT room has a computer with jaws, 9(11.5%) the school has special needs expert, 14(17.9%) the school has textbook or hand-out prepared in sign language, and also 20(25.6%) of respondents responded that the school has tactile, auditory, large print, and textbooks written in braille.

6. Inappropriate infrastructure

As discussed in Table 4.10 above, the lack of a specific relevant library for students with disabilities, the library being inconvenient, the lack of adequate reading materials, the large number of students per class, and a large number of textbooks are some indicators that the school infrastructure is not conducive to all students, especially SWD. This is evidenced with that, the majority of 56(71.8%) respondents said that the school infrastructures are not safe for SWDs. While 22(28.2%) of respondents decided that infrastructures are safe for SWDs. Similarly, 60(76.9%) of respondents replied that the school does have not a separate and accessible library for SWDs. I observed the school infrastructure, both schools have a separate and accessible library and toilet. Both school libraries have ramps. But there was no road to help to reach the ramp. Also, the classroom and other service provider offices' entrance and exit doors were not safe for SWD especially students with hard physical disabilities. Students who will use a walking frame cannot exit and enter the classroom by themselves without the assistance of other students. On the other hand, 22(28.2%) of teachers said that the school has a separate and accessible library. Also, 59(75.6%) of teachers said that the library does not have enough reading materials in terms of grade level and types of disabilities. Oppositely, 19(24.4%) of teachers agree that the library has enough materials. The respondents were asked what other challenges faced teachers to implement CA in open open-ended question guide in the questionnaire. The majority 49 (62.8%) of participants responded that large class size is a challenge to CA. and 29(37.2%) of them agreed that large class size is not a challenge to implement CA. More detailed descriptions of the challenge the number of students in a class was 29(37.2%) participants 38 up to 40, 27(34.6%) of the respondent's side that 56 up to 60, 8(10.3%) of participants side that 51up to 55, 6(7.7%) of participant side 61 up to 65, 4(5.1%) of participants side 46 up to 50, 3(3.8%) of participants side that 41 up to 45and 1(1.3% of participants side that 66 up to 70. this evidence indicated that the number of students in a class ranged from 38 to 70.

Additionally, a large quantity of textbooks is another challenge for CA 47(60.3%) of respondents and not a challenge for 31(39.7%) of respondents. Respondents responded that most

subjects have more than two hundred pages. More detailed descriptions of the number of pages with subjects and grade levels are; Grade of nine; History (210 pages), English (223 pages), Geography (229 pages), Information Technology (IT) (343page), and Mathematics (363 pages).

Grade of ten; IT (227 pages), History (236 pages), physics (250 pages), Chemistry (298 pages), English (316 pages), and Mathematics (385 pages). In Grade eleven Agriculture (261 pages), Biology (284 pages), Chemistry (330 pages), English (283 pages), Geography (243 pages), History (272 pages), Mathematics (479 pages), and physics (329 pages). And also, for Grade twelve; Geography (248 pages), English (263 pages), History (282 pages), Chemistry (287 pages), Agriculture (292 pages), biology (354 pages), and Mathematics (416 pages). This evidence indicates that the amounts of textbooks are large due to these teachers focused on covering the content rather than learners' needs.

4.5 Challenges Faced by Teachers When Implementing CA in Two Separate School Levels.

As indicated in Appendix J, I also tried to analyze data based on the study area separately; although the frequency and percentage are different from school to school because of the version of the quantity of participants. However, almost all aspects of items that display the challenges of teachers to effectively practice CA are similar in both study areas.

1. Rigid school rule in two distinct areas

Regarding school rules, the majority of participants 11(61.1%) in DBSS, and HMSS 33(55%) responded agreed that the school rule is rigid. On the other hand, 7(38.9%) of DBSS and 27(45%) of HMSS teachers said that the school rule is flexible. Similarly, in the question “I have no authority to my subject in DBSS the majority of respondents 10(55.6%) and in HMSS 32(53.3%) agreed that I have no authority to my subject, and 7(38.9%) and 28(46.7%) of teachers in DBSS and HMSS respectively said that I have authority to my subject. On the other hand, regarding the exam program, in DBSS 10(55.6%) and HMSS 45(57.7%) of respondents said that the exam program issued by the school provides students with reading time and other 9(50%) in DBSS and 36(60%) in HMSS respondents responded that the exam program is not provided students reading time.

2. Lack of time in two distinct areas

The question teachers asked was do you have a time limitation 16(88.9%) in DBSS and 38(63.3%) in HMSS teachers indicated that I had a time limitation and the rest 2(11.1%) in DBSS and 22(36.7%) in HMSS of teacher's side that I have not time limitation to implement CA. For the question I don't have time to allow extra time to students to complete their task, 13(72.2%) in DBSS and 38(63.3%) in HMSS of respondents responded agreed and the other 5(27.8%) in DBSS and 22(36.7%) in HMSS are not agreed.

3. Lack of training in two distinct areas

Almost all 17(94.4%) in DBSS and 49(81.7%) in HMSS respondents said that teachers lack training in the overview of IE is a challenge to implement CA and only 1(5.6%) in DBSS and 11(18.3%) in HMSS teachers agreed that teachers lack training in overview of IE is not challenge to implement CA. in DDSS 15(83.3%) of teachers responded that teachers not attend training in overview of CA is a challenge to implement CA like 52(86.7%) of teachers in HMSS. Whereas 3(16.7%) in DBSS and 8(13.3%) in HMSS of teachers said that teachers' lack of training in overview of CA is not a challenge to implement CA. similarly, in DBSS 16(88.9%) and HMSS 49(81.7%) of teachers side that lack of training in the overview of SWDs is a challenge for teachers to implement CA, and the remaining 2(11.1%) in DBSS and 11(18.3%) in HMSS of teachers side that lack of training in the overview of SWDs do not challenge to implement CA.

4. Lack of understanding of the CA process in two distinct areas

Regarding understanding the CA process, 15(83.3%) in DBSS and 33(55%) in HMSS confirmed that teachers faced difficulties in identifying students' types and levels of disability. In contrast, 3(16.7%) teachers in DBSS and 27(45%) in HMSS agreed that teachers have no difficulty identifying the type and level of students' disabilities. Similarly, 11(61.1%) in DBSS and 36(60%) in HMSS respondents agreed that teachers face difficulties in identifying SWD learning profiles. However, the remaining 7(38.9%) in DBSS and 24(40%) in HMSS of teachers have said that teachers do not have difficulty identifying SWD learning profiles. Determining which areas should be adapted is difficult for 13(72.2%) of DBSS and 40(66.7%) of HMSS, but not difficult for 5(27.8%) of DBSS and 20(33.3%) of HMSS. When it comes to deciding whether a modification or accommodation is appropriate, 11 (61.1%) teachers in DBSS and 43 (71.7%)

respondents in HMSS said it would be difficult to decide. To the same question, 7(38.9%) of teachers in DBSS and 17(28.3%) in HMSS responded that they had no difficulty in deciding whether accommodation or modification was appropriate.

5. Inadequate resources in two distinct areas

Regarding resources in both study areas majority of respondents 16(88.9%) of teachers in DBSS and 44(73.3%) in HMSS responded that the school does not have adequate resources. However, the remaining 2(11.1%) in DBSS and 16(26.7%) in HMSS teachers said that the school has adequate resources. As we observe from Appendix B Table 16(88.9) of teachers in DBSS and 53(88.3%) in HMSS assured that the lack of special needs experts was a challenge to implement CA. whereas 2(11.1%) of respondents in DBSS and 7(11.7%) in HMSS said that the lack of special needs teachers is not a challenge to teachers practicing CA. Many respondents agree that 13(72.2%) teachers in DBSS and 45(75%) in HMSS responded that lack of tactile, auditory, large print, textbooks written in braille, etc. was one challenge of teachers to practice CA. on the same question, 5(27.8%) of teachers in DBSS and 15(25%) in HMSS said that lack of tactile, auditory, large print, textbooks written in braille, etc. not challenges of teachers to practice CA. on the other hand, the respondents were asked whether there is lack of computer in jaws. The majority of teachers 16(88.9%) and 6(10%) in DBSS and HMSS respectively said that the school does not have a computer in Jaws. Oppositely on the same question, only 2(11.1%) teachers in DBSS and 6(10%) in HMSS responded that the school has computers in Jaws. Many respondents agree that a large class size is one challenge for teachers to implement CA. 12(66.7%) in DBSS and 37(61.7%) in HMSS of teachers responded that large class size is one challenge for teachers to implement CA. On the other side, for the same question 6(33.7%) from DBSS and 23(38.3%) from HMSS respondents responded that large class sizes are not challenges for teachers to implement CA.

The respondents were asked whether the lack of a textbook or hand-out prepared in sign language for students with hearing impairments is a challenge to implement CA. The majority in DBSS 16(88.9%) and in HMSS 48(80%) respondents responded that agreed while the remaining 2(11.1%) in DBSS and 12(20%) in HMSS respondents responded not agree. On the other hand, the respondents were asked what other challenges faced teachers to implement CA.

Almost all participants 17(94.4) in DBSS and 56(93.3%) HMSS said that the lack of textbooks is a great challenge in my school.

6. Inappropriate infrastructure in two distinct areas

Concerning school infrastructure in both study areas in the same ways, the majority of respondents 12(66.7%) in DBSS and 44 (73.3%) in HMSS of total teachers responded is the school infrastructure is not safe for students with a disability while the remaining 6(33.3%) in DBSS and 16(26.7%) in HMSS of teachers said that the school infrastructure has safe for SWDs. On the other hand, teachers were asked the question of whether the school lacks a separate accessible library for SWDs. The majority 16(88.9%) in DBSS and 44(73.3%) in HMSS of respondents responded that agreed. On the same question 2(11.1%) in DBSS and in HMSS respondents responded disagree. Regarding the lack of appropriate materials for SWDs in the library, almost all 16(88.9%) in DBSS and 43(71.7%) in HMSS of teachers responded. Whereas 2(11.1%) in DBSS and 17(28.3%) in HMSS respondents said disagree. Also, 12(66.7%) in DBSS and 35(58.3%) in HMSS of respondents responded that a large quantity of textbooks are challenges for teachers to implement CA while the remaining 6(33.3%) in DBSS and HMSS of respondents responded that large amounts of textbooks are not challenges of teachers to implement CA.

CHAPTER FIVE

Discussion of the Result

5.1 To what extent do teachers engage in curriculum adaptation to ensure inclusive education?

One of the aims of this study was to explore the extent to which teachers engage in curriculum adaptation, and the overall level of teachers' practice of CA was moderate. Whereas, the overall level of implementations of instructional strategy, material, content, and assessment adaptations are practiced at different levels. This indicated that teachers attempt to practice curriculum adaptations but do not implement all activities that ensure CA. This finding consistence with Mzizi and Rambuda (2014) found that teachers involved in adapting the curriculum; in fact only adapted time and activities. This suggests that we need to develop a level of teacher job improvement by providing teachers with access to professional development opportunities and resources that support all curriculum adaptations aimed at enhancing their understanding of instructional strategies, materials, content, and assessments.

5.1.1 To what extent do teachers engage in Instructional Strategy Adaptation to Ensure IE?

As can be seen from the result section, the researcher examined the extent of teachers' practice of instructional strategy adaptation; the levels of implementing giving extra time, giving appropriate tasks, adaptation of the school rules, and using a variety of small groups were moderate.

Regarding practice of adapting school rules and giving appropriate tasks according to students type and degree of disability was different from school to school and most of the time teachers using lecture teaching methods focused on textbook contents and treated all students the same way. Due to this the teacher does not give fully adequate extra time for SWDs to prepare themself for exams and to complete their classroom activities. This finding is consistent with Rasmitadila et al. (2019) found that there are still many teachers who think that inclusive classrooms are the same class as regular classrooms, assuming that all must be treated equally. Mishra et al., (2019) found that children with special needs need more time to learn or to write but usually do not get extra time; rather they are rebuked for not being able to complete the work in time. Also, inconsistency with Mzizi and Rambuda (2014) found that teachers used giving extra time as the main strategy. This implies that SWDs' difficulty in finishing their activities is

equal to SWODs because kinds of literature emphasizes the importance of adapting quantity, time, and difficulty to provide learners learning participation. (Abhiyan, 2016; Diana, 2005) emphasized teachers adapt the number of items that the learner is expected to learn or complete and allow time for students for learning, or task completion.

The findings also show that teachers use different small groups. However, the groups are randomly formed based on seat position or numerical order. These grouping methods do not allow students to help each other. Because students with similar learning abilities may be grouped together. In line with Simangele (2020) said that a variety of small groups are indicators of CA. However, most of the time learners were not arranged in groups based on their capabilities and abilities.

Teachers prepare a lesson plan for all students without considering SWD learning needs. However, the plan was not implemented. However, Taba 1996 stated that teachers identify the needs of the students and set convenient objectives. Also, Contrary to Paavizhi and Saravanakumar (2018) pointed out that teachers plan the content for a whole class, small group, peers, and or individuals based on suitable learning challenges, responding to children's diverse learning needs, and overcoming potential learning problems. This shows that both school teachers almost did not prepare IEPs for SWDs because the school does not have special needs experts. Muzata (2017) said that there was a positive relationship between specialization and the practice of IEP among teachers. This finding is similar with different researchers. Such as Chimhenga (2021) found that teachers in the Mpongwe District of Zambia did not prepare IEPs due to large classes, limited time, poor staffing, and lack of materials. Also, (Mitiku et al., 2014) found that teachers do not have trends and practice in preparing IEPs for students with special needs because the school's expectations are the same for all students. Based on the findings and different literature, it is evident that there are challenges in effectively meeting the individualized learning needs of students with disabilities (SWDs) through curriculum adaptation. In light of this, to reduce these challenges, schools should employ special needs experts and invest in specialized training to equip them with the knowledge and skills necessary to develop and implement effective IEPs for SWDs. This may include understanding different learning needs, setting appropriate goals, and designing divers learning strategies and assessments.

5.1.2 To what extent do teachers engage in Material Adaptation to Ensure IE?

One of the objectives of the study was to examine the extent to which teachers participate in material adaptation. Although overall material adaptation performance was low, availability of adequate instructional materials, availability of resource banks, use of alternative instructional resources, and use of visual and tactile materials were moderately implemented. The findings show that both schools have a resource bank (library) for all students. The library has various reference books, guidebooks, various novels, and geographical maps. However, almost all the materials available in the library are for SWODs. For this reason, teachers often do not use alternative materials for SWDs. This finding is consistent with Mitiku et al., (2014) found that there is a lack of special educational materials and equipment in the library and resource room such as reference books written in Braille and some geographical and mathematical aids.

On the other hand, both school teachers almost do not use audio tapes, large print, and textbooks written in braille, computers, and adaptation guides for teachers. Because both schools have a shortage of budget, they cannot buy essential materials. This indicates both schools do have not adequate materials especially computers with jaws and special needs experts. In this regard, SVI does not learn information technology. On the literature emphasized, Abhiyan (2016) stated teachers teach content using verbal, visual, kinaesthetically, and written materials including large fonts, Braille or tacitly coded materials, and real objects. External support and resource sharing may be needed to address budget and material shortages at both schools. Schools can alleviate resource shortages by seeking donations or supplies from local businesses, non-profit organizations, or government agencies, and by borrowing from the Atse Zera Yakob Elementary School Resource Room.

This indicated that both schools violated the MoE (2012) strategy stated that in secondary level subjects' grades nine and 10 and also grades 11 and 12 both social and natural students take Information Technology (IT) in the time allocations of two periods per week, one hour and 20 minutes per week, and 52 hours per year for grade nine and grade ten as well as three periods per week, two hours and 15 minutes per weak, and 87 hours and 45 minutes per year for grade eleven and twelve. Also, further emphasized that curriculum materials such as Flowcharts, Syllabuses, textbooks/practice books/modules, and teacher guides are essential for the implementation of the general education curriculum from pre-primary to secondary levels.

5.1.3 To what extent teachers do engage in Content Adaptation to Ensure IE?

One of the objectives of this study was to explore the extent to which teachers engage in curriculum adaptation (CA) in content, and the study found that adapting the lesson, giving extra tasks, and providing the same content in different forms was moderate. However, reducing, omitting, and replacing tasks, and giving different tasks to different students according to their respective problems implemented in lower level.

This indicated that both school teachers highly focused on the fundamental concepts of the subject teach the same content to different students in the same ways. But students complete their tasks occasionally teachers give additional tasks and the lesson has a calculation part, SVIs leave the class and do other work. These were some indicators of teacher's efforts to practice CA. Although SVIs may leave the classroom and do other work, teachers will not reduce, omitting, or replace the work based on SWDs' learning ability. However, Literature emphasizes that teachers reduce or add the amount of course content based on their student's ability (Kaur, 2021). When a book is too long, it could be necessary to eliminate entire units or even only certain sections of the units (Nakayiza, 2019). The results are similar to Shey (2017) in Cameroon, who found that teachers were able to apply some strategies except for reducing tasks when adapting the curriculum for learners with dyslexia. In some parts as opposed to Muzata and Mahlo (2019) in Zambia, originate that educators used approaches such as offering extra time, reducing tasks, and individualized teaching and similar about the idea of omitting tasks and replacing tasks were minimally applied. The difference between this finding and those of Muzata and Mahlo (2019) is that Muzata and Mahlo (2019) used special needs teachers as participants. This suggests that special needs teachers are better at implementing curriculum adaptation than regular teachers because they know inclusive education. literatures emphasize that, to plan and implement an IEP, teachers require a certain base knowledge about the IEP's underlying principles and processes (Mazza-Davies, 2008). Preparing inclusive training for regular teachers is crucial for teachers to have comprehensive knowledge, skills, and understanding (Ozel et al., 2018).

5.1.4 To what extent teachers do engage in Assessment Adaptation to Ensure IE?

Among the objectives of this research was to explore the extent to which teachers engage in assessment adaptation. The study found that teachers showed a higher level of engagement in terms of using various assessment tools, using assessments for multiple purposes, and checking students' previous abilities. However, their practice was moderate when it came to preparing

short tests and allowing opportunities for students to respond in different ways. This shows that teachers use oral, written, group, and individual tasks to assess their students. These tools are used to assess student learning progress and give final grades, including checking students' previous skills by asking oral questions. Teachers to some extent adapt to the MoE (2022) special needs and IE_strategy that indicates CA for students with special needs ensure that adapted assessment practices are according to their needs and abilities. However, there is room for improvement in adapting assessments to the needs of students. By providing training and support for schools to increase their understanding of different assessment practices and develop similar tests in various formats, they can better meet the needs of all students and create greater engagement.

5.2 What are the challenges faced by teachers in using CA to ensure IE?

Among the objectives of this study was to investigate the challenges faced by teachers in using CA to ensure IE were rigid school rules, shortage of time, lack of training, lack of understanding on CA related ideas, inadequate resources, inaccessible infrastructure, large class size, and large textbooks are major problems. Due to strict school rules, teachers do not have the authority to reduce or increase the content of their subjects. Also, inappropriate test programs and differential application of rules are significant barriers to implementing effective curriculum adaptations for inclusive education. The literature emphasizes that teachers' authority is one of the most important factors of school reform (Petrík, 2019).

The lack of accessible library facilities, the distance between home and school, and physical barriers to accessing the school compound create significant challenges for SWDs. This finding was in line with Tizazu and Negassa (2023) found that SVI were not properly participating in inclusive classrooms because of the long distance from home to school. Addressing these issues is crucial in ensuring that all students, including those with disabilities, have equal access to educational resources and opportunities.

Teachers do not receive training on overviews of inclusive education, and as a result, they do not understand the process of CA. due to a lack of understanding of is challenges of implementing CA effectively. Preparing training regular teachers in inclusive education can be crucial if they are to have the knowledge, skills, and understanding (Ozel et al., 2018). This finding is consistence with different researchers. Nucci (2019) found that general education teachers have

limited training in curriculum adaptations. Simangele (2020) stated that teachers lacked knowledge of CA like how to arrange their classrooms to provide support to those learners experiencing diverse learning difficulties. Coşkun, Tosun and Macaroğlu (2009) raised teachers' lack of knowledge about instructional materials for inclusion.

Other findings of the study were teachers faced with shortage of time inadequate resources, and large class size. This finding suggests that teachers are dealing with multiple challenges in their classrooms. These factors can significantly impact the quality of education that teachers can provide to their students. The shortage of time may limit teachers' ability to plan and deliver effective lessons, provide individualized support to students, and give extra time to address the diverse needs of their students. Different literatures emphasized extra time is necessary for SWDs to complete their task. Chimhenga (2021) stated that SHI often needs more time to understand the task and to finish it. ¯a-Tinana (2015) side that, many students with physical disabilities will face barriers related to physical movement and need to provide extra time to complete tasks and rest between the activities. This finding is in line with Mitiku et al., (2014) stated that teachers didn't give any additional time for SWDs in the regular class because of time limitations.

Inadequate resources can hinder teachers from accessing necessary materials, technology, or professional development opportunities that could enhance their teaching practices. In line with Simangele (2020) stated that the schools had difficulty implementing curriculum adaptation because of being under-resourced (training, time, and educational materials). Large class sizes can make it difficult for teachers to give personalized attention to each student, effectively manage classroom behavior, or create a conducive learning environment. This finding is consistence with Girma (2007) stated that more than 70 learners in a classroom are being taught in secondary classrooms in Ethiopia. The implications from these studies highlight the need for a holistic approach to inclusive education, encompassing teacher training, resource allocation, infrastructure improvements, and recognition of diverse learning needs. Implementing these implications in educational policies and practices can lead to more effective and inclusive learning environments for all students.

CHAPTER SIX

6.1 Summary, Conclusions, and Recommendations

6.2 Summary of the study

This study was prepared and studied under the title " Teachers' Curriculum Adaptation in Selected Inclusive Secondary Schools in Debre Berhan Town, Amhara Region" Its objective was examine the extent of engagement and challenges faced by teachers using curriculum adaptation. The following basic research questions were formulated to conduct the study.

1. To what extent do teachers engage in curriculum [instructional strategies, content, material, and assessments] adaptation to ensure IE?
2. What are the challenges faced by teachers in using CA to ensure IE?

To deal with these basic questions, related literature was properly reviewed questionnaires, interviews, observation, and FGD were prepared and it's been used to collect the data. A mixed research design was employed in this study. Data analayzis using mean, frequency, and percentage. Also to see whether there were significant differences between the two groups of respondents respond a t-test was it's been used. The participants of the study were 6 principals, 78 teachers, and 28 students with disabilities a total of 112 participants were selected by census method. The study found that overall levels of teachers' implementation of instructional strategy, content, and assessment adaptations were moderate. whereas, material adaptation was lower. The level of teacher's practice of giving extra time, using a variety of small groups, giving balanced tasks, and adapting to the rules of school was moderate. However, IEP was not implemented.

The level of use of alternative teaching materials and computers varied from school to school. Although the overall level of adaptation of materials is low, the availability of adequate teaching aids, availability of resource banks, and use of visual and tactile materials are implemented to some extent. However, using adaptation guidelines, audio tapes, large print, and textbooks written in Braille, are implemented at lower levels.

In other ways, the total level of adaptions of contents was implemented in moderation. Adapting the content of the lesson to students' abilities is practiced at a moderate level, and the results of

the *t*-test show that DBSS was significantly higher than HMSS in adapting the lesson to students' abilities. However, the difference was small. Similarly, giving extra tasks and different students learning the same content at the same time in different formats was implemented with a moderate level of adaptation. In another way, the lesson involves the fundamental concept of the subject implemented at a higher level. However, students work on different tasks at different levels of difficulty, reducing the amount of content, omitting the task, and replacing the task were implemented at a lower level.

The researcher also conducted to assess the implementation of teacher's assessment adaptation has been used six items. Overall, assessment adaptation was moderate. In general, although the level is medium, using different tools to evaluate their students, using different tools to evaluate students' continuous changes and final results, and asking questions to test their students' previous skills were implemented higher level. Concerning preparing short-length tests based on their learners' ability the allowances of the opportunity for students to respond to questions in different ways are implemented at a moderate level. Also, Teachers modified the test format to be implemented at a lower level. Regarding independent *t*-test results, preparing a short length of the test was implemented differently however the magnitude of the difference was small.

According to the findings, the teachers of both schools said that the challenges they faced in implementing curriculum adaptation were rigid school rules, lack of time, lack of training, lack of understanding of CA-related ideas, inadequate resources, inaccessibility Infrastructure, large class sizes, and large textbooks are the main problems.

6.3 Conclusions

The study highlights that the overall level of teachers' curriculum adaptation in selected inclusive secondary schools in the Debre Berhan Town Amhara Region of Ethiopia is moderate. Although teachers' experience with curriculum adaptation was moderate, due to the lack of training at the school and the lack of curriculum adaptation guidance, their participation in most activities was low. Some of the activities they implement are also plagiarized and impractical. As an indication of this, teachers planned a daily lesson plan for all students, and although the same tasks and different teaching materials were placed on the plan, there were no materials that teachers brought or used when they entered the classroom. Teachers simultaneously teach the basic concept of content to all students based on a textbook. However, students with visual impairments do not learn the math part of the course. Along with this, reducing the task,

replacing, omitting the task, providing different tasks according to their level of difficulty, using different teaching materials, using computers, modifying testing, and preparing an individualized lesson plan were implemented at the lowest level.

However, teachers' experience in using different assessment tools was high. These tools are used to assess students' prior skills and give a final result. Teachers' adaptation of the school regulations, discussing the educational content, providing balanced assignments, preparing short exams, and using appropriate teaching materials, the level of performance varies from school to school. Both school teachers faced different challenges that hindered the implementation of CA. These are strict school regulations, lack of time, lack of training, insufficient resources, lack of understanding of CA overview, and inappropriate infrastructure. This shows that there is still a lot of work to be done to improve the quality of education.

6.4 limitations of the study

This study is not free from any limitations. The researcher faced a shortage of recent and local reviews of related literature, a lack of valid and reliable teacher's questionnaires on CA, a lack of similar characteristics with an equivalent number of participants for the pilot study in the nearest area, the unwillingness of school principal to accept support letter, and few participants also filled out a questionnaire at an appropriate time and were unable to answer. However, an effort was made to manage and ensure the reliability of the study despite these limitations.

6.5 Recommendation

Based on the findings and discussions of this study, the following recommendations are made to improve the implementation level of teacher's curriculum adaptation to ensure inclusive education.

- The Education Department of Debre Birhan Town should provide opportunities for secondary school teachers to attend training in the overview of inclusive education, curriculum adaptation, and students with disabilities. This helps teachers understand the effective teaching methods of diverse students in inclusive classrooms through curriculum adaptation based on their learner profile.
- The Education Department of Debre Birhan Town should employ at least one special needs expert in each secondary school. Special need experts found in schools help to

identify students with special needs and provide appropriate services in with collaboration other school communities.

- The regional education office and Education Department of Debre Birhan Town should address textbooks for each student in a timely. And also gives focused students with visual and hearing impairment students like typical students, address textbooks written in braille and in sign language.
- The regional educational office and Education Department of Debre Birhan Town should give the GEQIP budget or other appropriate financial funds. This helps schools fulfill essential materials.
- The Curriculum Development Centre should provide clear guidelines for curriculum adaptation for SWDs. This guideline helps teachers balance their subjects to his/her learner's learning profile.
- School rules should be flexible for all students. and must apply the necessary rules to all students, including students with disabilities. If school rules do not apply to students with disabilities or give SWDs too much freedom, they may develop a sense that those with special needs are not required by the law. This feeling leads to illegality.
- The school should give freedom for teachers to their subject. Because teachers have freedom for their subject can teach the lesson balanced with their students' needs through add or reduce, omit or substitute, and or other mechanisms.
- The school should ensure the availability of special materials and equipment by allocating a special budget and the library should be equipped with the necessary materials to provide the service needed for students with special needs. And students with visual impairments should learn IT.
- The school should ensure the accessibility of its infrastructure by modifying buildings, such as installing ramps in classrooms, toilets, the director's office, the library, and other essential rooms. This will help students with physical disabilities to easily access the places they need to go.
- The school should ensure a manageable number of students in a class. Because large class sizes are difficult for teachers to control, and identify learning needs and support based on needs.

- Teachers should have to prepare individualized educational plans for students with special needs to become a real inclusive school. Because the real essence of teaching students with diverse educational needs is addressing the unique needs of each student.
- Teachers should offer attention, particularly to students with special needs in the teaching-learning process and procedures of testing and examination. The exam program should provide students with reading time; extra time should be allotted during classroom activities, and the test item should also be adapted [the number of items has to be reduced, preparing replacement questions, preparing in different formats, and giving good reader to test for SVI like final exam].

REFERENCE

¯a-Tinana, N. a. H. a. (2015). Physical disabilities A resource for educators. 40. (success for all every school.every child)

Abhiyan, S. S. (2016). Curricular Adaptations for Children with Special Needs. In (pp. 1-72): Confluence.

Adewumi, Rembe, S., Shumba, J., & Akinyemi, A. (2017). Adaptation of the curriculum for the inclusion of learners with special education needs in selected primary schools in the Fort Beaufort District. *Afr J Disabil*, *6*, 377. https://doi.org/10.4102/ajod.v6i0.377

Alemayehu, T., Bitew Atnaf, Jafar Lola, Mesfin Dejene, Teketel Agafari, Yitayal Alemu. (2020). *A Course for Higher Education of all Disciplines* (Alemayehu, Ed.).

Almeida, F. (2018). Strategies to perform a mixed methods study. *European Journal of Education Studies*.

Andini, D. W., Rahayu, A., Budiningsih, C. A., & Mumpuniarti, M. (2020). The Curriculum Adaptation Modelin Fulfilling the Learning Need for Diverse Students at InclusiveClassroom. *Universal Journal of Educational Research*, *8*(3D), 115-123.

Antoninis, M., April, D., Barakat, B., Bella, N., D'Addio, A. C., Eck, M., Endrizzi, F., Joshi, P., Kubacka, K., & McWilliam, A. (2020). All means all: An introduction to the 2020 Global Education Monitoring Report on inclusion. *Prospects*, *49*, 103-109.

Chimhenga, M. S. P. S. (2021). Curriculum modification as a critical approach to assist learners with special needs in institutions of higher learning in Zimbabwe. *International Journal of Research and Innovation in Social Science (IJRISS)*, *v*(III), 43-44.

Ciyer, A. (2010). *Developing inclusive education policies and practices in Turkey: A study of the roles of UNESCO and local educators*. Arizona State University.

Coşkun, Y., Diker, Tosun, Ü., & Macaroğlu, E. (2009). Classroom teachers styles of using and development materials of inclusive education. *Procedia-Social and Behavioral Sciences*, *1*(1), 2758-2762.

Creswell, J. W., Clark, V. P., & Garrett, A. (2008). Advances in mixed methods research. *Methodological issues in conducting mixed methods research designs*.

Diana. (2005). Adapting Curriculum & Instruction in Inclusive Classrooms. *substantially altered by Diana Browning Wright with permission from Jeff Sprague, Ph.D. from an original by DeSchenes, C., Ebeling, D., & Sprague, J. (1994).* https://doi.org/10.1016/j.sbspro.2009.01.489

General Education Curriculum Framework, 81 1 (2020).

Girma, K. (2007). Problems in teaching large class size in some selected general secondary schools of East Shoa Zone (Oromia Region). *Unpublished Master's thesis]. Addis Ababa University*.

Grover, V. (2015). Research approach: an overview. *Golden Reserach Thoughts*, *4*, 1-8.

Hall, T. (2002). Differentiated instruction. In.

Hall, T., Vue, G., Koga, N., & Silva, S. (2004). Curriculum modification. *Wakefield, MA: National Center on Accessing the General Curriculum. Récupéré de http://aem. cast. org/about/publications/2004/ncac-curriculum-modification. html*.

Kaur, N. (2021). Curriculum Adaptation for the Learning Disabled. *International Educational E-Journal,*, *II*(II), 26-31.
Keegan, J. A. K. L. (2012). Development and Use of Curricular Adaptations for Students Receiving Special Education Services. 44. https://doi.org/10.1177/0022466912464782
Lehtomaki, E., Posti-Ahokas, H., Beltran, A., Shaw, C., Edjah, H., Juma, S., Mulat, M., & Hirvonen, M. (2020). Teacher education for inclusion: five countries across three continents.
Ludago, T. B. (2020). Practices, Challenges and Opportunities of Inclusive Education Implementation in Kambata Tambaro Zone, Ethiopia. *OALib*, *07*(02), 1-29. https://doi.org/10.4236/oalib.1105989
Mara, D. M. E. L. (2012). Curriculum Adaption in Inclusive Education. 404-409. https://doi.org/10.1016/j.sbspro.2012.06.187
Mazza-Davies, L. L. (2008). *Personalising learning: Exploring the principles and processes of the IEP for young, gifted readers* The University of Waikato].
McBride, H., & Goedecke, M. (2012). Curriculum modification: Making standards accessible for deaf students with disabilities. *Odyssey: New Directions in Deaf Education*, *13*, 8-11.
Mergia, A. T. (2020). Education of children and youth with disabilities in the Ethiopian school system. *Int J Sci Res Pub*, *10*(4), 732-742.
Mirasandi, I. P. (2019). Curriculum Adaptation in Learning Student with Special Needs at Inclusive Schools Surakarta City. *Indonesian Journal of Disability Studies*, *6*(1), 42-46.
Mishra, P. A., Hota, S., & Khamari, P. R. (2019). Curriculum adaptation in inclusive education. *Internat ional Journal of Appl ied Research*, *5*(8), 70-74.
Mitiku, W., Alemu, Y., & Mengsitu, S. (2014). Challenges and opportunities to implement inclusive education. *Asian Journal of Humanity, Art and Literature*, *1*(2), 118-135.
MoE. (2012). The Federal Democratic Republic of Ethiopia Special Needs/ Inclusive Education Strategy 1-23.
Mokaleng, M. (2019). *Factors affecting the implementation of inclusive education practices in selected secondary schools in Omaheke region* University of Namibia].
Msomi, S. R. (2020). *An exploration of teachers' experiences of curriculum adaptation to support learners with diverse learning difficulties*
Muzata, K., & Mahlo, D. (2019). Teachers' knowledge of curriculum adaptation and adaptation strategies for learners with special educational needs in Zambia. *Journal of New Vision in Educational Research*, *1*(1), 17-35.
Muzata, K. K. (2017). *Curriculum implementation for learners with special education needs: the case of selected inclusive and special schools in Zambia* PhD Thesis, University of South Africa, http://uir. unisa. ac. za/handle …].
Mwaimba, A. W. (2014). *Teacher factors influencing implementation of inclusive education in public primary schools in Nyangala Division, Taita Taveta County, Kenya* University of Nairobi].
Mzizi, N., & Rambuda, A. (2014). Curriculum adaptations for learners with learning impairments in the Foundation Phase. *Interim: Interdisciplinary Journal*, *13*(1), 76-86.
Nakayiza, F. (2019). *Adaptation of instructional materials for children with hearing impairment in primary schools in Goma division, Mukono municipality* Kyambogo University (un published work)].
Nel, M. (2020). Inclusive and special education in Africa. In *Oxford Research Encyclopedia of Education*.

Nucci, K. (2019). Adapting Curriculum for All Students: How Teachers Can Be Better Prepared for the Inclusive Classroom.
Ozel, E., Ganesan, M. Z., Daud, A. K. M., Darusalam, G. B., & Ali, N. A. B. N. (2018). Critical issue teacher training into inclusive education. *Advanced Science Letters*, *24*(7), 5139-5142.
Paavizhi, & Saravanakumar. (2018). *Curriculum for Inclusive Education* International Conference on Curriculum and Instructional Designing for Global Education book
Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. Routledge.
Pandey, P. P. M. M. (2015). *Research methodology*.
Parween, D. (2021). Curriculum for Students with Visual Impairment in Inclusive Setup. In (pp. 126-136).
Perner, D. (2004). Changing teaching practices: using curriculum differentiation to respond to students' diversity.
Petrík, Š. (2019). *Teacher´s authority as a one of the most important factor of school reform*. https://doi.org/10.5593/SWS.ISCSS.2019.4/S13.063
Potmesil, M. (2022). Inclusive education of students with hearing impairment. *Article in EduPort · April 2022*. https://doi.org/10.21062/edp.2022.002
Qounsar, A. P. a. T. (2018). inclusive education and the challeng. *National Journal of Multidisciplinary Research and Development*, 64-68.
Rasmitadila, R., Widyasari, W., Prasetyo, T., Rachmadtullah, R., & Samsudin, A. (2019). The instructional strategy in inclusive classroom: in inclusive teachers' opinion. *NTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH*.
Rotter, K. (2014). IEP use by general and special education teachers. *Sage Open*, *4*(2), 2158244014530410.
Roy, S. (2023). Individualized Education Plan, Process of IEP With Special Reference To Its Development and Implementation.
Scott, B. J., Vitale, M. R., & Masten, W. G. (1998). Implementing instructional adaptations for students with disabilities in inclusive classrooms: A literature review. *Remedial and special education*, *19*(2), 106-119.
Shey, P. F. (2017). Curriculum Adaptation and the Accommodation of Children with Dyslexia in Regular Schools in Buea Sub-Division, Cameroon. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, *4*(1), 36-47.
Shukla, S. (2020). *Concept of population and sample*.
Simangele, R. M. (2020). *An exploration of teachers' experiences of Curriculum adaptation to support learners with diverse learning difficulties* (Publication Number Edgewood campus) [Degree of Master of Education – Educational Psychology, University of KwaZulu-Natal]. un published.
Smale, J. A., Meijer A,Helms-Lorenz M and Maulana R. (2019). Differentiated Instruction

in Secondary Education: A Systematic Review of Research Evidence. Front. Psychol.
Sosaango, G. S. (2021). The Challenges of Inclusive Education in Ethiopia: The Reality on the Ground. *Ethiopian Journal of Education Studies*.
Taherdoost, H. (2021). Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects.
Tichá, R., Abery, B., Johnstone, C., Poghosyan, A., & Hunt, P. (2019). *Inclusive Education Strategies: A Textbook*.

Tizazu, D., & Negassa, D. (2023). *Assessing Factors Affecting Inclusion of Students with visual impairment in selected primary schools in dedo Woreda, Jimma Zone, Oromia Region* Haramaya University].

UNCRPD. (2016). General comment No. 4 (2016), Article 24: Right to inclusive education. *United NationsConvention on the Rights of Persons with Disabilities*, 1-24.

UNICEF. (2020). Focus group discussion guide for communities [IFRC]. 1-9.

Van Eeuwijk, P., & Angehrn, Z. (2017). How to… Conduct a Focus Group Discussion (FGD). Methodological Manual.

Vyas, D. P. (n.d). Curriculum Adaptation: A Demand for Inclusive Education. *Creating Inclusive Classrooms*, 55.

Zelelew, T. A. (2018). The inclusion of students with visual impairment at Addis Ababa University, Ethiopia: Challenges and prospects. *Sociology and Anthropology*, *6*(1), 1-19.

Appendixes

Appendix A: Questionnaire for Teachers

Debre Birhan University

College of Social Science and Humanity

Department of Psychology

Special Needs and Inclusive Education

Directions:

I am a Master's student in Special Needs and Inclusive Education at Debre Birhan University. I am researching "Curriculum Adaptation by Teachers in Selected Inclusive Secondary Schools at Debre Birhan Town". The collected data were used for only academic purposes and the identity of the participants will be kept confidential.

Please fill in the data within one week [07/08/2016 to 13/08/2016 E.C.].

Section I: Demographic Information of Teachers

Read carefully the following questions and give appropriate answers to the following directions**.**

1. School name: _____secondary School.
2. Gender: A. male ☐ B. female ☐
3. Age in years; below 24 ☐ 25-34 ☐ 35-44 ☐ Above 45 ☐
4. Level of education A. diploma ☐ B. BA ☐ C. MA, ☐ D. PhD ☐
5. How many years of work at this school? 1 year ☐ 2-3 years ☐ above 4 years ☐
6. Subject taught: _____
7. Grade level taught: _____

Section II: Table 1: The following questions are expected to address the issues related to:

To what extent do teachers engage in curriculum adaptation to ensure IE?

Please use (✓) to show your level of agreement on one of the choices of

Not at all (1), partially (2), and **Fully (3)**

No	How do teachers get involved in curriculum adaptation practice?	1	2	3
Instructional strategy (1-7)				
1	I adapt the rules of school on how the learner may approach the work based on the skill level and problem type.			
2	Each student gives a task according to their level.			
3	I offer extra time to students who do not finish a task in the set time.			
4	I give enough time for students to prepare for tests and final exams in my subject.			
5	I prepare an individual education plan (IEP) for learners with special needs.			
6	I prepare a lesson plan for whole students			
7	I use a variety of small groups.			
Materials (8-14)				
8	The school has adequate educational materials.			
9	The school has a resource bank for students who need it (e.g., a loan of an exercise book, a guidebook, textbooks, a recorder, etc.)			
10	I use alternative teaching resources that respond to all my students' characteristics.			
11	I use the computer during my lessons.			
12	I use audio tapes, large print, and Braille books to encourage students with visual impairments to learn independently.			
13	I use materials that can be seen and tactile.			
14	I have an adaptation guideline from my school.			
Contents (15-22)				
15	The lesson involves the fundamental concepts of the subject.			
16	The lessons I teach are adapted to the students' abilities.			
17	I reduce the amount of content if my student has low learning ability.			
18	I replace tasks/content when the content is difficult.			

Note: levels of teachers' implementations of CA.

No	How do teachers get involved in curriculum adaptation practice?	1	2	3
19	If the lesson is not balanced with the learning needs students have, I will			
20	I have extra tasks for students who finish tasks early.			
21	During my lesson, different students learn the same content at the same time in different formats.			
22	During my lessons, different students work on different tasks with different levels of difficulty.			
Assessment (23-28)				
23	I use various tools to evaluate learning.			
24	My assessment is based not only on the final grade but also on the progress made by the student.			
25	I check my students' previous abilities by asking questions.			
26	I allow the student to respond to questions in writing or verbally based on my student's needs.			
27	I modify the test format, like a multiple-choice test provided for some students on the same questions, while a fill-in-the-blank test is prepared for others.			
28	I shortened the length of the test/tsk based on students' abilities.			

Note: levels of teachers' implementations of CA.

Section III Table 2. 1. The following questions are expected to address the issues related to the **challenges faced by teachers when implementing curriculum adaptations** in an inclusive classroom.

Please show your level of agreement using the tick (✓) sign from the '**Yes**' or '**No**' option.

No	What are the challenges faced by teachers when implementing curriculum adaptation	Yes	No
Challenges related to school rules			
1	The school rules do not allow all students freedom, especially students with disabilities.		
2	I do not have the authority to increase or decrease the content, cover or not cover, or test the students at any time to meet their learning needs.		
3	The exam program issued by the school does not provide students with reading time.		
Challenges related to time			
4	I have a time limitation		
5	I do not have enough time to give extra time to students with disabilities to complete tasks.		
Challenges related to training			
6	Lack of training in the overview of inclusive education.		
7	Lack of training in overview of curriculum adaptation.		
8	Lack of training on overview of students with disability.		
Challenges related to understanding			
9	I face difficulties identifying students' type and degree of disability.		
10	I face difficulties in identifying learners with different disabilities and their learning profiles in my class.		
11	I face difficulties identifying what areas may need to be adapted.		
12	I face difficulties in deciding on either modification or accommodation for students with disabilities based on their learning profile.		

Note: *challenges faced by teachers to implement CA.*

No	What are the challenges faced by teachers when implementing curriculum adaptation	Yes	No
Challenges related to resource			
13	The school does not have adequate resources.		
14	Lack of special needs experts.		
15	Lack of tactile, auditory, large print, textbooks written in braille, etc. for students with visual impairments.		
16	Lack of computer in jaws in the IT room.		
17	Lack of textbook.		
18	Locke of use textbook or hand-out prepared in sign language for students with hearing impairments.		
Challenges related to infrastructure			
19	School infrastructure is not safe for students with disability.		
20	Lack of separate accessible library for students with disability.		
21	The library does not have enough reading materials in terms of appropriate grade levels including sign language, and different books written in braille.		

Note: challenges faced by teachers to implement CA.

2. Does much number of students in your classroom challenge to adapt curriculum?

Yes ☐ No ☐

A. If "Yes" how many students have in a class_____.

3. Does the large contents of the textbook challenge to use of curriculum adaptation? Yes ☐

No ☐

A. If ''Yes'' how many chapters and pages have your taught subject? _____.

4. What challenges do you face while implementing curriculum adaptation in your classroom?

_____.

5. What possible solution to overcome challenges to implement curriculum adaptation in your classroom effectively?

_____.

Thank you for your cooperation

Appendix B

Pupil's focus group discussion guide

Name of interviewer……

Group…….

Date of focus group discussion…….....

Place of focus group discussion……

Number of participants…….

Nature of participants: ……. Boys ……...Girls

I would like to begin my discussion by asking you how you feel about the way teachers handle children with special needs

Q1. How the school use identified SWD? Explain the method.

Q2. Are the teacher's teaching strategies in the classroom safe for you?

- Is the school rule safe for you?
- Each student gives a task according to their level.
- Students who don't complete a task on time will be given more time.
- Does it give you enough time to prepare for the exam? How many subjects take exams per day?
- Do you participate in all activities similarly to SWODs in your school?
- Does the teacher develop a personalized lesson plan when needed?

Q3. Your teachers teach subject content adapted to his/her learning ability.

Do you learn the basic concepts of the course?

Do your teachers give you different tasks based on your abilities?

Do teachers reduce the content of the lesson for students with low learning abilities?

Do teachers give you extra work when you finish your work?

Are you learning the same task at the same time in a different format?

Q4. Do your teachers use different teaching resources to reinforce the lesson?

- Does your school have enough learning materials?
- Can you borrow educational materials from your school if you do not have the material?
- Do your teachers use teaching resources based on his /her type and degree of disabilities?
- Do your teachers use computers?

Q5. Are teacher evaluation methods tailored to your needs?

Do teachers use different ways to evaluate your academic performance?

Can you answer the same questions in different ways?

Do your teachers prepare short-length of tests/assignments?

Do your teachers prepare the same test and exam in different formats for different students?

Do teachers give you extra time during assignments, classwork, tests, and exams?

Q6. Is the school infrastructure suitable for you? Probe opportunities and challenges.

a. Exit entrance door, road, classroom, library, toilet, playing area,
b. School rules: exit entrance time, uniform-related issues, teacher-student relations,

Q7. What are the challenges that hinder your teaching-learning process in your school?

Q8. What possible solution to overcome challenges?

Thank you for your participation!

Appendix C

Semi-structured interview with the school principal

The participants in this study were asked the following interview questions to gain a better insight into their perceptions of the practice and challenges faced by teachers when implementing curriculum adaptation to meet the learning needs of students with disability in IE.

Background information:

Sex -----Qualification------ Age ---- Years of service only in the study area ------

1. Dose you familiar with the concept of IE?
   A. Is your school infrastructure accessible for SWDs?
2. How to identify SWDs in your school?
   a. Does the school have eligibility criteria to admit children with special needs or not?
3. Are there curriculum adaptation guidelines at the school level?
   A. Is there any training on how to adapt the curriculum for teachers at the school level?
4. What resources and supports are available at your school site to enable you to better meet the learning needs of students with a disability?
   a. Do your school rules and regulations consider all students' backgrounds, especially SWDs?
   b. Your school exit entrance time is flexible for students?
   c. SWDs learn subjects based on FDRE MoE guidelines in your school [IT for SVI, and physical education for physical disability]?
   d. Mid and final exam programs considered all students' learning abilities in your school?
5. In your school, all teachers have freedom about their taught subject [reduce or add content, covered or not covered textbook, give exam/ test any time, etc.]?
6. In your opinion, what are the most challenging aspects of meeting the learning needs of students with disability in your school?
7. From your viewpoint, what possible solution to overcome challenges when adapting the curriculum to meet the learning needs of students with disability in your school?

Thank you for your participation

ተቀጽላ “መ”

ለልዩ ፍላጎት ተማሪዎች የተዘጋጀ መጠይቅ

ስሜ ይስማዉ እባላለሁ. በደበረ ብርሃን ዩኒቨርሲቲ ስነ-ልቦና እና ስነ-ሰብ ትምህርት ክፍል በልዩ ፍላጎትና ካቶ ትምህርት የማስተር ተማሪ ነኝ. የስርተ ትምህርት ማስማማት በሚል ዕርስ የመመረቂያ ጽሁፍ እየሰራሁ ነው. እናንተ የምትሰጡኝ መረጃ ለስዬ ውጤታማነት ወሳኝ ስለሆነ ተክክለኛ እና ታማኝ መረጃ እንድትስጡኝ እያሳሰብኩ የምትሰጡኝ መረጃ ለዚህ ጥናት ብቻ የሚዉል እና ሚስጢራዊነቱ የተጠበቀ ይሆናል.

ዉድ የሆነ ጊዜያችሁን ስለሰጣችሁኝ በቅድሚያ አመሰግናለሁ.

ክፍል 1፡ አጠቃላይ መረጃ፡

የጠያቂው ስም_____ የቡድኑ ስም _____

ቡድን ውይይቱ የተደረገበት ቀን _____ ውይይቱ የተደረገበት ቦታ_____

የተሳታፊዎች ብዛት_____ የተሳታፊዎች ጸታ ወ _____ ሴ _____ ድ _____

ክፍል 2፡ የተማሪዎች የቡድን ውይይት የመወያያ ጥያቄዎች

መምህራን ልዩ ፍላጎት ያላቸውን ልጆች እንዴት እንደሚያስተምሩ በመጠየቅ ውይይቴን ልጀምር

1. ትምህርትቤታችሁ ልዩ ላጎት ያላችውን ልጆች እንዴት ይለያል? ዘዴውን አብራሩ.
2. በክፍል ውስጥ የመምህሩ የማስተማር ስልቶች ለእናንተ ምቹ ናቸው?

- የትምህርት ቤቱ ህግ ለእናንተ ተስማሚ ነው?
- አንድን ተግባር በሰዓቱ ላላጠናቀቁ ተማሪዎች ተጨማሪ ጊዜ ይሰጣቸዋል?
- ለፈተና ለመዘጋጀት በቂ ጊዜ ይሰጣችኋል? በቀን ስንት የትምህርት ዓይነቶችን ትፈተናላችሁ?

- በትምህርት ቤታችሁ ውስጥ ካሉ ጉዳት ከሌለባቸው ተማሪዎች ጋር በተመሳሳይ በሁሉም ተግባራቶች ትሳተፋላችሁ?
- አስፈላጊ ሆኖ ሲገኝ መምህሩ የግል የትምህርት እቅድ ያዘጋጃል?

3. መምህራን የሚያስተምሩት የትምህርት ይዘት ከእናንተ የመማር ችሎታ ጋር የተጣጣመ ነው?
    - የትምህርቱን መሰረታዊ ፅንሰ-ሀሳብ ትማራላችሁ?
    - አስተማሪዎች በችሎታችሁ ላይ ተመስርተው የተለያዩ ተግባራትን ይሰጣሉ?
    - መምህራን ዝቅተኛ የመማር ችሎታ ላላቸው ተማሪዎች የትምህርቱን ይዘት ይቀንሳሉ?
    - ሥራውን ቀድሞ ለጨረሰ ተማሪ አስተማሪዎች ተጨማሪ ተግባር ይሰጣሉ?
    - በተለያዩ ፎርማት በተመሳሳይ ጊዜ ተመሳሳይ ተግባር እየተማራችሁ ነው?
4. ትምህርቱን ለማጠናከር አስተማሪዎችዎ የተለያዩ የማስተማሪያ ቁሳቁሶችን ይጠቀማሉ?

• የትምህርት ቤቱ በቂ የመማሪያ ቁሳቁስ አለው?

• የምትፈልጉትን የትምህርት ቁሳቁሶች ከትምህርት ቤታቸሁ መበደር ወይም መዋስ ትችላላችሁ?

• አስተማሪዎች በተማሪዎች የአካል ጉዳት አይነት እና ደረጃ ላይ ተመስርተው የማስተማር ግብአቶችን ይጠቀማሉ?

• አስተማሪዎች ኮምፒውተር ይጠቀማሉ?

5. የመምህራን መገምገሚያ ዘዴዎች ከእርስዎ ፍላጎት ጋር የተስማሙ ናቸው?
    - መምህራን የትምህርት አፈጻጸምን ለመገምገም የተለያዩ መንገዶችን ይጠቀማሉ?
    - ለተመሳሳይ ጥያቄዎች በተለያዩ መንገዶች መመለስ ችላላችሁ?
    - አስተማሪዎች አጭጭር ፈተናዎችን/ተግባራትን ያዘጋጃሉ?
    - አስተማሪዎች ተመሳሳይ ፈተናዎችን በተለያዩ ፎርማት ለተለያዩ ተማሪዎች ያዘጋጃሉ?
    - መምህራን በአሳይመንት፣ በክፍል ውስጥ፣ እና በፈተና ወቅት ተጨማሪ ጊዜ ይሰጣሉ?
6. የትምህርት ቤቱ መሠረተ ልማቶች ለእናንተ ተስማሚ ናቸው? ምቹ ሁኔታዎችን እና ተግዳሮቶችን ግለጹ።

ሀ. የመግቢያ እና መውጫ በር ፣ መንገዶች ፣ መማሪያ ክፍል ፣ ቤተመጽሐፍት ፣ መጸዳጃ ቤት ፣ የመጫወቻ ቦታ ፣ ወዘተ።

ለ. የትምህርት ቤት ህጎች፣ የመግቢያ ጊዜ፣ የደንብ ልብስ ነክ ጉዳዮች፣ የአስተማሪ እና የተማሪ ግንኙነት፣ ወዘተ።

7. በትምህርት ቤትዎ ውስጥ የመማር ማስተማር ሂደትዎን የሚያደናቅፉ ተግዳሮቶች ምንድን ናቸው?
8. ተግዳሮቶችን ለመፍታት ምን መፍትሄ ሊሆን ይችላል?

ለነበረችሁ ተሳትፎ አመሰግናለሁ!!

Appendix E

Direct observation checklist date----/----/-------.

To use the actual school practice of inclusion at Debre Birhan Town Selected Secondary Schools in 2016 E.C. This direct observation checklist is used for two days within 2 hours a day. The checklist has different concepts that help to collect meaningful information about school environments. It focusing areas of the observation listed in the following checklist table.

Grade ---Section--- No. of SWDs **VI** [M---- F ---- T ---**HI** [M----F---T--- **PD** [M----F----T ----

Items	**Activates**	**Yes**		**No**
		Partially	Totally	
Infrastructure	The school exists and the entrance door is safe for all students.			
	Each classroom is accessible and has a ramp			
	Directors' office is accessible and have a ramp			
	The school has a water pump and is safe for all students			
	The school has accessible and safe toilets for SWDs			
	The school has an accessible and separate library and the library has enough reading materials interims of appropriate grade levels including sign language and different books written in braille.			
	The school has jaws computer for SVI			
	Each service provider rooms have a safe road			
Classroom management	The classroom has rules and regulation			
	Rearrange the physical layout of the classroom			
	Classroom organization is safe for SWDs			
	The classroom is clean and attractive			
	Classrooms have enough light			
	Students group as a whole in class			
	SWDs grouping with SWODs			
	Students group in small for activities.			
	Students group in pairs.			

Note: observation checklist.

Continued ….

Items	Activates	Yes		No
		Partially	Fully	
Teaching learning process	State clear objectives of the lesson			
	Have a teacher's lesson plan			
	The student-teacher relationship is democratic			
	Encouraged students to ask questions			
	All students freely participate			
	Teachers use different methods			
	Provided frequent feedback to students			
	Noted verbally or in written form both the positive and negative aspects of a student's performance			
	Give more time to complete tasks			
	Break down between activities			
	Activities at various levels of difficulty			
Assessment	Check students' previous skill			
	Use alternative assessment methods [oral, written]			
	Check students achieve considered objective			
Materials	Use alternative materials			
	Use textile, auditory, large print, written in braille, etc materials for SVI.			
	SVI uses textbooks or handouts prepared in braille.			
	Use visual materials for SHI and other students			
	SHI uses textbooks or handouts prepared in sign language.			

Note: observation checklist.

Appendix F

Significance Difference of Instructional strategy Adaptation between Two Selected Schools

Items	Groups	M	SD	Sig.	t	df	Sig. (2-tailed	X diff.	95 % interval difference	
									Lower	Upp.
I adapt the rules of the school	DBSS	2.39	.61	.21	2.43	76	.02	.41	.07	.7
	HMSS	1.98	.62							
Student are given tasks according to their level.	DBSS	2.11	.73	.74	2.22	76	.029	.39	.04	.74
	HMSS	1.67	.63							
I offer extra time to students who do not finish a task in the set time.	DBSS	1.83	.51	.54	-.70	76	.49	-.12	-.45	.22
	HMSS	1.95	.65							
I give enough time to prepare for tests in my subject.	DBSS	2.11	1.02	.18	.24	76	.81	.06	-.45	.58
	HMSS	2.05	.95							
I prepare an (IEP) for SWDs.	DBSS	1.33	.59	<.001	1.73	19	.10	.25	.05	.45
	HMSS	1.08	.28							
I prepare a lesson plan for whole students.	DBSS	2.61	.50	.17	.72	76	.48	.11	-.2	.42
	HMSS	2.5	.59							
I use a variety of small groups.	DBSS	2.17	.62	.93	.10	76	.92	.02	-.31	.34
	HMSS	2.15	.61							

Note. The mean score and standard deviation show significant differences in strategy adaptation between selected schools.

Appendix G

Significance Difference of Material Adaptation between Two Selected Schools

Item	Group	M	SD	Sig.	t	df	Sig. (2-tailed	X diff.	95% confidence of intervals diff.	
									Lower	Upper
The school has adequate educational materials.	DBSS	1.83	.51	.75	-.59	76	.56	-.08	-.37	.199
	HMSS	1.92	.53							
The school has a resource bank.	DBSS	1.83	.71	.46	.20	76	.84	.03	-.30	.37
	HMSS	1.8	.61							
I use alternative teaching resources.	DBSS	2.0	.34	<.001	2.18	52	.033	.25	.02	.48
	HMSS	1.75	.63							
I use a computer.	DBSS	1.44	.62	<.001	2.26	20	.035	.34	.03	.66
	HMSS	1.10	.35							
I use audio tapes & large print for SVI.	DBSS	1.28	.67	<.001	1.53	17	.14	.24	-.09	.58
	HMSS	1.03	.18							
I use seen and tactile material.	DBSS	2.0	.59	.01	-1.18	33	.25	-.2	-.54	.14
	HMSS	2.20	.73							
I have adaptation guidelines.	DBSS	1.33	.59	.16	.93	76	.36	.13	-.15	.41
	HMSS	1.20	.51							

Note. The mean score and standard deviation show significant differences in material adaptation between DBSS and HMSS.

Appendix H

Significance Difference of Content Adaptation between Two Selected Schools

Item	Group	X	SD	Sig.	T	df	Sig.(2-tailed)	X diff.	95% confidence of intervals diff. Lower	Upper
The lesson involves the fundamental concepts.	DBSS	2.89	.32	.003	1.90	53	.063	.21	-.01	.42
	HMSS	2.68	.59							
The lesson is adapted.	DBSS	2.06	.64	.62	2.10	76	.039	.32	.02	.63
	HMSS	1.73	.55							
I reduce the number of tasks.	DBSS	1.83	.71	.57	1.55	76	.13	.28	-.08	.65
	HMSS	1.55	.67							
I replace tasks or content.	DBSS	1.5	.71	.78	.44	76	.66	.08	-.29	.46
	HMSS	1.42	.70							
I omit the task.	DBSS	1.33	.49	.26	-.44	76	.66	-.07	-.37	.24
	HMSS	1.4	.59							
I have extra tasks for fast students.	DBSS	1.94	.73	.81	1.37	76	.18	.23	-.10	.56
	HMSS	1.72	.58							
Different students learn the same content in different formats.	DBSS	1.78	.65	.06	.63	76	.53	.13	-.27	.53
	HMSS	1.65	.78							
Different students work on different tasks.	DBSS	1.50	.71	.07	1.25	76	.22	.2	-.12	.52
	HMSS	1.30	.56							

Note. The mean score and standard deviation show significant differences in material adaptation between DBSS and HMSS.

Appendix I

Significance Difference of Assessment Adaptation between Two Selected Schools

Table 4.13 Independent sample t-test results of assessment adaptation on two distinct areas.

Variables	Group	M	SD	Sig.	T	Df	Sig.(2-tailed)	M diff.
I use various tools to evaluate	DBSS	2.5	.71	.17	-.31	76	.78	-.05
	HMSS	2.55	.57					
My assessment is multi-purpose	DBSS	2.61	.61	.86	.07	76	.94	.01
	HMSS	2.6	.56					
I check students' previous ability	DBSS	2.78	.43	.06	.91	76	.37	.13
	HMSS	2.65	.55					
I allow the students to respond in several ways	DBSS	2.17	.62	.28	-.99	76	.33	-.17
	HMSS	2.33	.63					
I modify the test format.	DBSS	1.44	.70	.43	.36	76	.72	.06
	HMSS	1.38	.61					
I prepare short tests or tasks.	DBSS	2.22	,81	.53	2.16	76	.03	.44
	HMSS	1.78	.74					

Note. Mean score and standard deviation show significant differences in assessment adaptation between DBSS and HMSS.

Appendix J

Challenges faced by teachers when implementing CA.

Items	DBSS				Merged data		HMSS			
	Yes		No		Yes	No	Yes		No	
	N	%	N	%	%	%	N	%	N	%
The school rules are rigid.	11	61.1	7	38.9	56.4	43.6	33	55.0	27	45.0
I have no authority over my subject.	10	55.6	8	44.4	51.3	48.7	30	50.0	30	50.0
The exam program does not give time for reading	9	50.0	9	50.0	42.3	57.7	24	40.0	36	60.0
I have a time limitation.	16	88.9	2	11.1	67.9	32.1	38	63.3	22	36.7
I don't have time to allow extra time to students	13	72.2	5	27.8	65.4	34.6	38	63.3	22	36.7
Lack of training in the overview of IE	17	94.4	1	5.6	84.6	15.4	49	81.7	11	18.3
Lack of training in CA.	15	83.3	3	16.7	85.9	14.1	52	86.7	8	13.3
Lack of training on overview of SWD	16	88.9	2	11.1	83.3	16.7	49	81.7	11	18.3
I face difficulties identifying SWD	15	83.3	3	16.7	61.5	38.5	33	55.0	27	45.0
I face difficulties in identifying SWD learning profiles in my class.	11	61.1	7	38.9	60.3	39.7	36	60.0	24	40.0
I face difficulties identifying what areas may need to be adapted.	13	72.2	5	27.8	67.9	32.1	40	66.7	20	33.3
I face difficulties in deciding on either modification or accommodation	11	61.1	7	38.9	69.2	30.8	43	71.7	17	28.3
The school does not have adequate resources.	16	88.9	2	11.1	76.9	23.1	44	73.3	16	26.7

Note. Challenges faced by teachers to implement CA in separated study areas and merged data analysis.

Continued ….

Items	DBSS				Metge data		HMSS			
	Yes		No				Yes		Not	
	N	%	N	%	N	%	N	%	N	%
Lack of special needs experts.	16	88.9	2	11.1	88.5	11.5	53	88.3	7	11.7
Lack of tactile, auditory, and large print, for SVI	13	72.2	5	27.8	74.4	25.6	45	75.0	15	25.0
Lack of computer in jaws	16	88.9	2	11.1	89.7	10.3	54	90.0	6	10.0
Lack of textbook.	17	94.4	1	5.6	93.6	6.4	56	93.3	4	6.7
Locke of textbook prepared in sign language	16	88.9	2	11.1	82.9	17.9	48	80.0	12	20.0
School infrastructure is not safe for SWDs	12	66.7	6	33.3	71.8	28.2	44	73.3	16	26.7
Lack of separate accessible library for SWDs	16	88.9	2	11.1	76.9	23.1	44	73.3	16	26.7
The library does not have enough materials for SWDs	16	88.9	2	11.1	75.6	24.4	43	71.7	17	28.3
Large class size.	12	66.7	6	33.7	62.8	37.2	37	61.7	23	38.3
large number of textbooks.	12	66.7	6	33.3	60.3	39.7	35	58.3	25	41.7

Note. Challenges faced by teachers to implement CA in separated study areas and merged data analysis.