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Curriculum Differentiation in Ethiopian Secondary Education: Practices of Boarding and Special Day Schools and Student Experiences

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Abstract

The study examined curriculum differentiation practices and student experiences at special day and boarding schools. Seven teachers, two principals, and 16 students participated in a multiple-case study design. Interviews were conducted with teachers and principals, and focus group discussions were held with students from each school. The National Curriculum framework and student grade rosters were reviewed. The data were analyzed through qualitative descriptions of themes. The study reveals that boarding and special day schools adhere to the standard secondary school curriculum and streams, with minimal curriculum differentiation, by deepening curriculum contents, providing local language options, and improving laboratory activities. Both boarding school and special day school students work for academic excellence. This drive stems from the favorable educational environment provided by schools, which includes competent teaching staff, well-equipped laboratories, and modern ICT facilities. Students appreciate the collaborative environment and support from peers and teachers. Boarding school students reported improved time and self-management skills. However, students are concerned that excessive focus on academic excellence and competition has increased stress levels and limited the development of non-academic skills. Special day school students question whether curriculum differentiation would widen inequitable access to educational resources. It is concluded that boarding and special day schools fall short of meeting the core principles of curriculum differentiation, as their curriculum, streams, and expected outcomes are similar to mainstream secondary schools. It is imperative that the bodies concerned deliberate on the purpose, student selection process, provision of differentiated curriculum (in any form), and the formulation of a policy to guide the establishment and management of these types of schools.

Keywords**:** *curriculum differentiation, secondary education, boarding school, special day school, student experience*

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Introduction

One of the main goals of education in today's society is to produce well-rounded and critical people who reach their full potential as learners (Adam, 2020). To this end, education should be organized in such a way that it is relevant for different groups of people and also for each individual (Eikeland & Ohna, 2022; Seifert & Sutton, 2009). For instance, Seifert and Sutton stated that students differ from one another in terms of learning pace and motivation for learning. Students vary as groups in terms of social, academic, linguistic, and culture for learning. Therefore, many argue that an educational system needs to diversify its delivery approaches to support students in accordance with their diverse abilities and equitably address the diverse interests of individuals and groups (Abodey & Ansah, 2017; Seifert & Sutton, 2009; Tomlinson, 2014).

What is curriculum differentiation?

The main idea of curriculum differentiation (CD) revolves around the fundamental question of whether countries should design a common curriculum for all students in general education (primary and secondary) or develop different curricula or streams for diverse students (Terwel, 2005). Under this fundamental question belongs an academic debate on streaming, ability grouping, and tracking between or within boarding schools and/or special day schools. Wermke et al. (2024) argue that "differentiation signifies transformations from the homogenous to the heterogeneous. Such transformations refer to processes of dividing (e.g. people and institutions) and clarifying boundaries (e.g. of curricular contents and educability)" (p.2). Proponents of differentiation argue that both group and individual diversities are increasing and curriculum and teaching should be responsive to these growing

diversities (Kanevsky, 2011). By varying how an educational system and its general curriculum are delivered, CD is one of the strategies for supporting students with various needs (Adewumi et al., 2017; Reis & Renzulli, 2015). The CD is conceptualized as systems, structures, and processes that provide distinct curricular opportunities to diverse individuals or groups of students to meet their specific learning characteristics, interests, and abilities (Eikeland & Ohna, 2022; LeTendre et al., 2003; Perry & Lamb 2017). For example, LeTendre et al. (2003) developed a typology of CD that incorporates five distinct types to create diversified curricula. The first type of CD is by type of schools, for example, between academic, technical, and vocational schools. This is a common practice in many European countries such as Germany, Czech, and Finland. Students will be placed in different types of secondary schools which prepare them for various purposes. The second type of CD is by course of study. This is the provision of various paths of study to students within the same school. Students will be expected to take similar courses for each path of study in a country. The natural science, social science, and vocation fields available to Ethiopian students in grades 11 and 12 appear to fall under this category. The third type is CD by streams, which gradually differentiates students in the number, type, and difficulty of their courses. This differentiation considers students' past achievements and interests. The fourth type of CD is ability grouping, in which students in the same class are grouped into different ability levels, or instruction is arranged to these different types of students in different classes in the same school. These are ability groupings in reading, mathematics, or classes for gifted or talented students. The fifth type of CD is based on geographic location that occurs between the

same types and levels of schools across regional states due to local funding bases and/or socioeconomic status.

From reviewing empirical evidence, Eikeland and Ohna (2022) also identified four different levels of CD. These are (1) individual level, characterized by a focus on the uniqueness of each student's learning process; (2) group level, characterized by an emphasis on specific groups of students who are often targeted in terms of their abilities or language skills; (3) classroom level, characterized primarily by the focus on the instructional context of all students in a heterogeneous or diverse classroom; and (4) system level, characterized by emphasizing the importance of contextual factors such as school culture and leadership, education systems, and education policies as conditions for CD. Ledwaba (2017) and Ronksley-Pavia (2010) stated a CD should be implemented in an inclusive classroom with diverse learning abilities and characteristics rather than in separate settings or classes with homogeneous students. This type of CD differentiates curriculum components, such as the content of the curriculum, instructional processes, assessment strategies, and learning environments. However, Eikeland and Ohna (2022), Reis and Renzulli (2015), and Tomlinson (2014) characterized such differentiation of curriculum components in an inclusive classroom as differentiated instruction rather than CD.

The main purpose of CD is to help all students, as individuals or groups realize their full potential by offering educational services that cater to their diverse needs and abilities (Abodey & Ansah, 2017). So, it is crucial to develop differentiated curricular systems and strategies to support students in accordance with their diverse needs because CD is firmly rooted in the idea that there is diversity within any group of students and that school leaders and teachers accommodate the students'

educational experiences accordingly (Watson & Reigeluth, 2008). Gardner's (1983) theory of multiple intelligences and Vygotsky's (1978) sociocultural theory of learning are the theories that serve as the foundations of CD. Both theories acknowledge that teachers and educational leaders must differentiate a curriculum to meet students' diverse needs and potential abilities. The underlying principle of CD in these theories is that each student is unique and learns differently from others through being given a variety of opportunities to experience multiple ways of learning. Thus, teachers, school leaders, students, and parents must all be involved in CD practices to support each student's learning potential, talent areas, learning profiles, readiness, and interests (Abodey & Ansah, 2017; Seifert & Sutton, 2009; Tomlinson, 2014). Thus, while CD has received support and criticism in the scholarly debate, it essentially refers to establishing different types of schools tailored for the potential abilities of students, various streams or programs in the same school which students can choose to study, organizing selected type of education (mathematics or science or arts) based on the abilities of students, and tailoring or adapting instructional activities to diverse students in a heterogeneous classroom.

Curriculum differentiation practices

The practices of CD are offered in a variety of ways. Grouping students between school types and within a school (between classes or within a classroom) is among the most common forms of CD. In this regard, the placements of students into vocational and academic schools in the form of boarding schools and special day schools in addition to comprehensive or regular schools are included in the practice of CD that involves structural differences and grouping students between school types

(Ayalon, 2006; LeTendre et al., 2003; Perry & Lamb, 2017; Terwel, 2005). The general secondary school (Hauptschule), advanced secondary school (Gymnasium), and intermediate secondary school (Realschule), and others in Germany; academic, technical, and vocational/trades upper secondary schools in the Czech Republic; general academic and vocational upper secondary schools in Finland; and voluntary, vocational, and comprehensive secondary schools in Ireland are a few examples of the usual form of structural differences in CD practices between school types (Bol & Van de Werfhorst, 2013; Perry & Lamb, 2017; Smyth, 2017).

The other examples of CD practices between school types are the three different types of specialized/ boarding schools in Korea that exist for mathematically gifted students. The main purpose of these boarding high schools is to cater to mathematically and scientifically gifted students since regular high schools are unable to meet their special needs (Choi & Hon, 2009). Choi and Hon stated that one of the three boarding schools practiced an acceleration system, which allowed students to complete the regular 3-year mathematics curriculum in a year and enter the best higher education institutions. The other boarding school has a distinctive, innovative curriculum in nonacademic abilities in leadership, sports, and artistic performances, in addition to offering courses within the Ministry of Education curriculum guidelines. Still, the other boarding school has implemented professional courses that include accelerated and enrichment courses in mathematics, sciences, and technology in addition to a national curriculum used in all high schools. There are also several types of CD practices within the majority of regular, boarding, or special day secondary schools (Ayalon, 2006; LeTendre et al., 2003; Perry & Lamb, 2017; Terwel, 2005).

Although the practice of CD between school types and within a school type is widely acknowledged as a useful practice to accommodate the diverse learning needs and abilities, levels of readiness, and interests of students, there are concerns that it does not promote equal learning opportunities for students from all backgrounds; provide students with the skills they need to be productive; and socialize students (Bol & Van de Werfhorst, 2013). There is also research that shows CD practices in a variety of school types, including boarding schools and special day schools, have drawbacks in attaining students' educational goals and their psychological development (Demirel & Kurt, 2021; Friborg et al., 2020; Gaztambide-Fernandez, 2009; LeTendre et al., 2003; Terwel, 2005). For example, depending on the context, students may encounter a variety of challenging issues such as traumatic experiences, bullying, sexual abuse, homesickness, and friend deprivation, and subsequently, the majority of them experience a sharp decline in their grades (Ahmed et al., 2019; Behaghel et al., 2017; Demirel & Kurt, 2021; Laiser & Makewa, 2016). Moreover, some studies identified increasing social class disparities, inequality in educational opportunities and learning outcomes between student categories, as well as a decline in average achievement when differentiating students among school types (Ayalon, 2006; Bol et al., 2014; LeTendre et al., 2003; Perry & Lamb, 2017; Smyth, 2017).

Curriculum differentiation in Ethiopian secondary education

In Ethiopia, secondary education has spent several decades working towards the goal of providing a general education that enables students to recognize their needs, interests, and potentials through the choice of streams between social science and natural science (Ministry of Education [MoE], 2009). Since the founding of Haile

Selassie I Secondary School in 1943, various attempts have been made to differentiate secondary education in Ethiopia, although there is still uncertainty about the rationales and purposes of differentiation in secondary education. The only exception in this case is the curriculum differentiation guideline developed by the Ministry of Education in 2012, which is essentially about differentiated instruction rather than curriculum differentiation. Based on the recommendations of the Long Term Planning Committee for General Education in 1953, it can be seen that there were two types of secondary schools: academic secondary schools and special schools (Kiros, 1990). The specialised secondary education prepares people with medium qualifications for technical subjects, agriculture and forestry, veterinary science, commerce and teaching. UNESCO's recommendation in 1962 also shows curriculum differentiation in secondary education:

> *In secondary education, the numbers are so small that nearly half of those completing 12th grade go on to higher studies--a situation which seriously imperils University standards and which fails to provide anything like the requisite number of persons with middle-level education who are needed for various sectors of the national economy (Kiros, 1990, p. 27).*

In 1962, secondary school curriculum differentiation based on school type and stream was introduced. Some secondary schools were converted into comprehensive secondary schools with academic and vocational streams. The vocational streams were meant to prepare middle-skilled individuals for the country. During the Dergue period, secondary education was organised into comprehensive secondary schools and secondary schools; in which the former was intended to prepare students for medium-

skilled work in various professional sectors in addition to academic subjects. There were also schools that prepared students for vocational and technical subjects and offered the opportunity to pursue higher education. During the EPRDF period, secondary education was divided into preparatory schools (grades 11 and 12) and basic secondary education (grades 9 and 10). Students who pass the school leaving exam at grade 10 would be promoted to the 11th grade and prepare for higher education. Those who have not passed the exam at grade 10 or are interested in studying technical and vocational subjects would be admitted to the technical and vocational institutes or colleges. Technical and vocational education was shifted from secondary schools to special training institutes and colleges.

In Ethiopia, the CD discourse has been critical of curricular differentiation. When the education and training policy was introduced in 1994, the introduction of technical and vocational education from grade 10 onwards was derided by much of the Ethiopia academia and the political elite alike, with the claim that all secondary school students should complete twelve years of academic training before they are differentiated into vocational and academic tracks. However, educational practice in different parts of the world shows that in some countries the differentiation of curricula begins at the primary and middle school levels.

Ethiopia's educational system before 1991 struggled with a lack of clearly defined policy, access, equity, and quality (Joshi & Verspoor, 2013; MoE, 2018). According to Joshi and Verspoor (2013) and MoE (2019), the General Secondary Education Curriculum Framework required revision to incorporate CD principles and practices. Accordingly, a new general education curriculum framework (MoE, 2020) was introduced. The framework explicitly incorporates the concept of CD for grades 9

through 12, which seeks to offer all students equitable access to the knowledge, skills, and values necessary for a variety of career paths, to maximize each student's development and success for further learning, and to align with the present and future labor markets (MoE, 2018, 2020, 2023). Furthermore, in its National Guidelines for CD, the MoE (2012) stated that implementing CD in line with students' learning profiles, readiness, and interests is encouraged.

Differentiation studies in Ethiopia focus exclusively on differentiated instruction. A review of the available studies shows that its focus is on the attitudes and practices of teachers, students, school leaders, and teacher trainers in adapting curriculum content and teaching and learning to the educational needs of diverse learners (Abraham et al., 2022; Girma, 2022; Girma & Dawit, 2022; Solomon, 2019; Tadesse, 2018; Zewudie, 2019). Although differentiated instruction is an important component of CD, the conceptualization focuses on instructional practices and interactions between teachers, school leaders, and students. Differentiated instruction remains a viable way to address the group and individual needs of learners, but it cannot capture differentiation practices at the education system or at the national level. As already mentioned, the differentiation of curricula has sociological, philosophical and political foundations and goes beyond school or classrooms.

Conceptualization of curriculum differentiation

In summary, based on the literature review and the current context in Ethiopia, CD is conceptualized as shown in Figure 1.

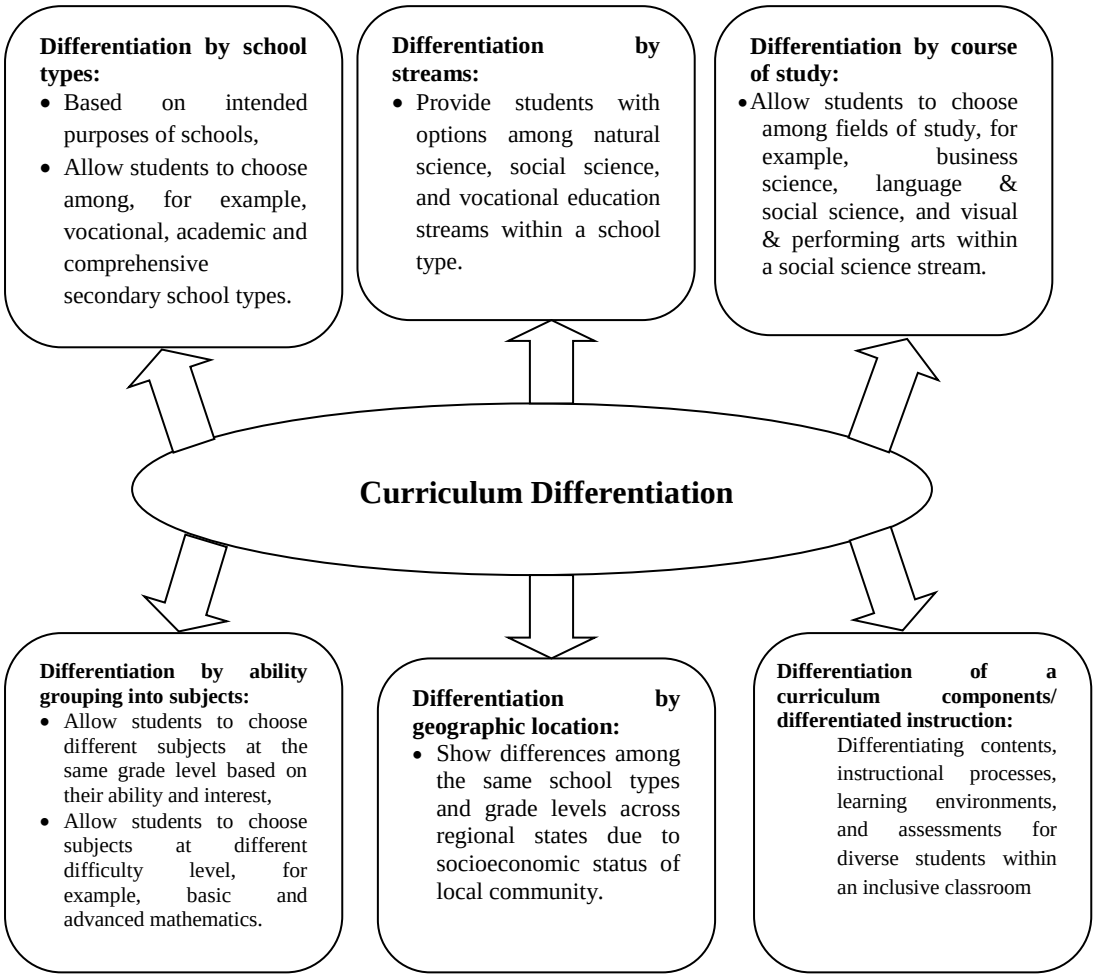

Figure 1

Conceptualization of Curriculum Differentiation (Source: Authors' synthesis)

Currently, streaming (among natural sciences, social sciences and vocational education) is practiced in Ethiopian schools based on the curriculum framework and new education and training policy (MoE, 2023). Although not explicitly enshrined in the country's general education curriculum framework or education and training policy, establishing boarding schools and special day school types appears to be the trend in Ethiopia. This new enthusiasm or infatuation for boarding schools and special day schools deserves further research as there appears to be little or no policy guiding the establishment, operation, and practice of these schools. Nor is there empirical research on boarding schools or special day schools, teachers, students, and community members. Therefore, this study examined the available types of CD practices such as differentiation by school types, differentiation by streams, differentiation by courses of study, subject differentiation, and differentiation of curriculum components along with student experiences.

Statement of the Problem

Ethiopia's education system has experienced various ways of tracking or ability grouping. In the late 1980s and early 1990s, students completed a common elementary and middle school curriculum. Students in grades 9 and 10 also had similar programs. When students reached 11th grade, they were enrolled in natural science, social science, and vocational programs for two years. During this time, there were practices in which students from selected schools were divided into different ability groups. The students with the best results were placed in selected classes to differentiate the curriculum according to the needs and abilities of these students. The then education and training policy of 1994 introduced standalone vocational and

training colleges or institutes and completely removed vocational subjects from secondary school education. Secondary school students who completed the 10th grade either switched to vocational subjects or continued their education in the 11th grade, choosing either social science or natural science stream.

During the Ethiopian People's Revolutionary Democratic Front (EPRDF) period, boarding schools were introduced in some regions. Students were selected based on their academic performance in regional grade 8 exams, and those with the best results were admitted to special day or boarding schools. These schools, initiated by the political elites, were not founded based on education and training policy, as the educational policy at the time postulated inclusive educational practices at different grade levels. Under the education and training policy, the special needs/inclusive education strategy and its implementation strategy were also introduced in 2012. Students in special day/boarding secondary schools performed well in school leaving exams, prompting other regions to open similar schools.

Regional governments are now pushing to establish special day schools and boarding schools. Universities have also established such schools, and many universities in the various regional states consider opening such schools as the best way to serve their community and train the best local minds. The top leadership at the Ministry of Education also seems to emphasise establishing special day schools and boarding schools to provide quality educational opportunities to the best-performing students.

The curriculum, the subjects, and the streaming options in boarding schools and special day schools seem similar to regular secondary schools so far. In recent years, these schools have been praised because almost all of their students passed their

school-leaving exams given to grade 12 completers. In fact, special day or boarding school students are the best 8th-grade students and have the best teachers and resources compared to the underfunded public high school students. Therefore, they are highly likely to perform better in school-leaving exams.

In the study area, there are two boarding schools and one special day school managed by Addis Ababa City Administration. The special day school provides daytime instruction to all grades 9 to 12 students , who return to their homes after school. On the other hand, boarding schools provide dormitories, food, and education to all students in grades 9 to 12. In these three secondary schools, one boarding school admits only boys, the other only admits girls, while the special day school admits both boys and girls. Students with excellent academic standards in the 8th grade are accepted into boarding and special day schools. In this regard, several researchers have agreed that many boarding schools and special day schools admit a particular group of students (in this study's case, high academic achievers) with adequate teaching and learning facilities (e.g., Kaltsas & Gkaintartzi, 2021; Laiser & Makewa, 2016; Gaztambide-Fernandez, 2009). Even though boarding schools and special day schools have a reputation for academic excellence, researchers in Ethiopia rarely pay attention to this area of study.

As stated earlier, there is still debate on the appropriateness of CD, although there are strong psychological foundations and national needs for differentiation of education. Studies in other countries reported various drawbacks to student placement practices, in general, in boarding and special day school types. For example, studies by LeTendre et al. (2003), Ayalon (2006), and Smyth (2017), among others, showed the detrimental effects that tracking practices in various school types have on

reproducing social and academic inequalities as well as curricular segregation. Curricular segregation based on gender and socioeconomic background also hurts students' chances of academic success and post-secondary education pathways. On the other hand, the current practice of placing students into special day and boarding secondary schools in Ethiopia based on academic achievement and gender is not supported by empirical evidence in Ethiopian secondary school contexts. Hence, this study has vital contributions in the field to fill in knowledge gaps for the practice of secondary school principals and teachers in the context of Ethiopian secondary education. Hence, the objectives of the study were to:

1) examine the types of curriculum differentiation practices offered by boarding and special day government secondary schools in Addis Ababa.
2) explore the academic and psychosocial experiences of students in boarding and special day secondary schools.

Methods

Research Design

This study used a multiple-case study design to examine and understand different types of CD practices and actual experiences of students in boarding school and special day school contexts. The students' actual experiences in learning and psychosocial experiences are taken into account. According to Yin (2018), a multiple case study design is a widely used qualitative study design. It allows researchers to examine and understand the same case study that includes multiple cases, such as a boarding school and a special day school. This study focused on a case study of a special day school and a boarding school. A multiple case study first examined each

school as a single case study before conducting the types of curriculum differentiation for each school and drawing conclusions and insights from each case study.

Research Sites

Three government secondary schools (two boarding schools and one special day school) in Addis Ababa City Administration enroll a small number of students from grades 9 through 12. These three schools admit high academic achievers, and they are supposed to practice CD types to meet the various needs, interests, and abilities of those students. Among the three schools, one boarding school coded as School 1 and one special day school coded as School 2 were selected as study sites. The two schools were founded in 1931 and 1957, respectively. These two schools were chosen in part due to their familiarity and proximity. These were thought to make it possible for the researcher to gather in-depth information about the different types of CD practices and the experiences of students within these schools with ease. The other boarding school was excluded from the pilot testing due to its distance

Participants

According to Creswell and Creswell (2018), researchers use "purposeful sampling" to specifically select people who are knowledgeable about and understand the underlying phenomenon (in this study's context, the types of CD practices and experiences of students). Leaders, teachers, and students from School 1 and School 2 were chosen using a purposeful sampling technique. The principal and the teacher had master's degrees or above. The total number of students, teachers, and school leaders from School 1 and School 2 during data collection (in the 2022/23 academic year) is shown in Table 1.

Table 1

Total Numbers of Accessible Populations across Sex in School 1 and School 2

Population	School 1			School 2		
	Male	Female	Total	Male	Female	Total
Principal	1	2	3	1	1	2
Teacher	42	8	50	28	7	35
Student	---	402	402	174	138	312

One principal, three subject teachers, and eight students from School 2 and one vice principal, four subject teachers, and eight students from School 1 participated in the study. One male and one female student from each grade level (i.e., grades 9th to 12th) were selected purposively as the study participants. Table 2 shows the demographic information for the participant teachers and school leaders from Schools 1 and School 2.

Table 2

Demographic Characteristics of School Leader and Teacher Participants

Participants	Position	Sex	Education level	Work experience in years	School code
Principal 1	Vice Principal	M	MA	11	School 1
Principal 2	Principal	M	MA	17	School 2
Teacher 1	Amharic teacher	F	MA	11	School 1
Teacher 2	English teacher	M	MA	20	School 1
Teacher 3	Biology teacher	M	MSc	12	School 1
Teacher 4	Physics teacher	M	MSc	9	School 1
Teacher 5	Biology teacher	M	MSc	14	School 2
Teacher 6	Maths teacher	M	MEd	14	School 2
Teacher 7	Physics teacher	M	MSc	10	School 2

Note: M=Male, F=Female, MA=Master of Arts, MSc=Master of Science, MEd=Master of Edu.

Instruments

To gather in-depth information about the different kinds of CD practices and the experiences of students within the schools, the study used face-to-face FGDs with students and interviews with school principals and teachers. A document review was also employed to gather data about the different types of CD practices in the schools.

According to Creswell and Creswell (2018), face-to-face individual or group interviews enable researchers to safeguard participants' emotional states while eliciting further information, elaboration, and explanation of responses. Five leading open-ended interview questions, or FGD probing statements, were developed, and for each FGD with students and interview with school leaders and teachers, an audio recorder was used to capture the reliable conversations precisely. Besides, the data collection instruments were pilot-tested in one boarding school, which was excluded from the main study. The revision was made to improve the clarity of the instrument and the use of words that fit the selected school contexts.was made with eight students selected from each school. The purpose of the FGD, according to Cohen et al. (2018), was to gain a group opinion instead of an individual one through a sort of group interview with four to twelve participants in each group. Following extensive reading of relevant literature from multiple sources, open-ended questions for the FGD were created. Critical reviews were conducted on documents pertaining to CD practice indicators in School 1 and School 2 (such as national curriculum policy documents, and student mark lists or documented grade rosters). Scott and Morrison (2005) contend that documents can be used to assess educational practice in addition to group and/or individual interviews. Additionally, any case study issue is probably relevant if it has documentation (Yin, 2018).

Data Collection Procedures and Ethical Issues

The data collection procedures encompassed a variety of activities, ranging from obtaining permission letters to conducting data analysis. Initially, permission letters were obtained from Addis Ababa University and the Addis Ababa City

Education Bureau. Subsequently, the boarding and special day secondary schools, along with their respective accessible populations (i.e., students, teachers, and school principals), were compiled. Following this, focus group discussion (FGD) and interview guides were developed. The instruments were pilot-tested in a similar school context, and appropriate revisions were made.

Next, the participants were selected, and the necessary data were collected through FGDs with students, interviews with school principals and teachers, and document reviews of curriculum frameworks and school documents (e.g., grade rosters). The FGDs and interviews were recorded using audio tape recorders. Document reviews, which included examining curriculum frameworks and grade rosters, were carried out to analyse the available types of curriculum differentiation (CD) in the general education curriculum frameworks and the documented CD practices in boarding and special day secondary schools. Grade rosters in each school provided clear insight into the number of subjects taken by students in each grade level and stream, as well as how students were grouped into specific subjects and streams between or within classes in a school.

Finally, the qualitative data obtained through various instruments were categorized and analyzed using themes, along with detailed descriptions. Moreover, ethical considerations were meticulously addressed throughout the data collection and analysis processes. For instance, all study participants were briefed about the study's purpose and provided oral consent before participating. Private settings were utilized during FGDs and interviews to ensure confidentiality, and the participants and their school names were anonymized during data analysis through the use of codes.

Adhering to these ethical principles not only safeguards participants' identities but also bolsters the study's validity (Creswell & Creswell, 2018).

Results

The available types of CD practices and the academic and psychosocial experiences of students in boarding and special day secondary schools are presented in this section.

Types of Curriculum Differentiation Practices within Boarding and Special Day Schools

The qualitative data regarding the common types of CD practices were gathered from reviewing the national curriculum framework, the school document, the interviews with school principals and teachers, and the FGDs with students, which are presented in this section. Since the newly revised curriculum framework of 2020 has not been implemented yet, it is essential to examine the types of CD incorporated into the previous curriculum frameworks of 2009 (i.e., still under practice) and the intentions of the revised curriculum framework of 2020 as benchmarks for the practices of boarding and special day schools. Thus, the types of CD incorporated in Ethiopia's General Secondary Education Curriculum Frameworks are listed in Table 3.

Table 3

Types of CD Incorporated in the General Secondary Education Curriculum Frameworks

Streams	Subjects for grades 11 and 12 students in the framework of 2009	Fields of study for grades 11 and 12 students in the framework of 2020
Natural Sciences	**Specialized subjects**: Biology, chemistry, physics, and technical drawing. **Common subjects**: Civics and ethical education, English, ICT, mathematics, and physical education. **Elective subject**: Mother tongue/ nationality language or Amharic.	**Fields of study:** Manufacturing (comprises 7 general subjects and 4 field-based subjects), construction (with 7 general subjects and 4 field-based subjects), ICT (with 7 general subjects and 5 field-based subjects), agriculture (with 6 general subjects and 4 field-based subjects), and health science (with 7 general subjects and 4 field-based subjects).
Social Sciences	**Specialized subjects**: History, general business, geography, and economics. **Common subjects**: Civics and ethical education, English, ICT, mathematics, and physical education. **Elective subject**: Mother tongue/ nationality language or Amharic.	**Fields of study:** Business sciences (contain 6 general subjects and 5 field-based subjects), language and social sciences (contain 6 general subjects and 4 field-based subjects), and performing and visual arts (contain 6 general subjects and 5 field-based subjects).

Table 3 depicted that boarding and special day secondary schools have legitimacy to practice stream differentiations (between natural and social sciences), subject choices (among elective subjects), and differentiation by fields of study (among five natural sciences and three social sciences study areas) for students in grades 11 and 12.

Additionally, Amharic as a second language, English, mother tongue, mathematics, ICT, physics, chemistry, biology, civics and ethical education, geography, history, and physical education were all incorporated into the curriculum framework of 2009 and offered to students in grades 9 and 10 (MoE, 2009). Ten compulsory and two optional subjects are currently incorporated in the newly revised curriculum framework of 2020 but not implemented yet for students in grades 9 and 10 (MoE, 2020). English, mathematics, physics, chemistry, biology, geography,

history, citizenship education, economics, and IT are the ten subjects that are intended to be offered. First language, a federal language, a foreign language, health and physical education, and performing and visual arts are the optional subjects, from which students in grades 9 and 10 may select two.

However, in the 2023/24 academic year, the Ethiopian Ministry of Education wrote a "tentative letter" in February 2023 that included subjects to be offered to all secondary school students from grades 9 to grade 12 across Ethiopia. According to the letter, all grades 9 and 10 students across Ethiopia shall take twelve compulsory subjects: English, mathematics, biology, chemistry, physics, geography, history, citizenship education, economics, IT, health and physical education, and mother tongue, with the option to choose either a federal language or a foreign language or a performing and visual arts subject. Similarly, all grade 11 and 12 natural science students across Ethiopia shall take seven compulsory subjects: English, mathematics, IT, biology, chemistry, physics, and agriculture, with no opportunity to choose additional subjects. On the other hand, all grade 11 and 12 social science students across Ethiopia shall take six compulsory subjects: English, mathematics, IT, geography, history, and economics, with no opportunity to choose additional subjects.

Types of Curriculum Differentiation Practices within the Boarding School

The data from the students' grade roster was gathered and is presented here on specific types of CD practices at the boarding school for students in grades 9 through 12. The document review data show that the types of CD practices in the boarding school are the natural sciences and social sciences streams for students in grades 11 and 12 and Amharic and Afan Oromo languages are elective subjects in grades 9

through 12. Particularly, the subjects offered in 2022 for grades 11 and 12 natural science students were nine compulsory subjects: English, mathematics, physics, chemistry, biology, technical drawing, civics and ethical education, ICT, and physical education. Additionally, they can choose either Afan Oromo or Amharic subjects. All grades 11 and 12 social science students also took nine compulsory subjects: English, mathematics, geography, history, economics, general business, civics and ethical education, ICT, and physical education. Additionally, they took both Amharic and Afan Oromo subjects. Similarly, grades 9 and 10 students took ten compulsory subjects: English, mathematics, physics, chemistry, biology, civics and ethical education, geography, history, ICT, and physical education. They have also the option to choose either Amharic or both Amharic and Afan Oromo subjects.

The FGD conducted with boarding school students shows that the choice of natural sciences and social sciences streams is the dominant practice in the school, with the majority of the students joining the natural sciences stream. The students believed that natural sciences are more preferred to social sciences. One of the FGD participants also stated that "these boarding school staff members have completed all the admission and placement processes into both Afan Oromo and Amharic, or Afan Oromo, or Amharic separate classes." According to an interview with Principal 1, "There is stream differentiation in the boarding school between the social sciences and the natural sciences for students in grades 11 and 12." Principal 1 further noted that:

> *Afan Oromo classes are open to students who have an Afan Oromo language background and attend primary schools in both Addis Ababa city and the Oromia Special Zone (closest to the Addis Ababa city administration). Students from Addis Ababa City's primary schools who speak Amharic are*

> *also welcome to enroll in Amharic classes. There is officially approved subject differentiation between Afan Oromo and Amharic subjects in secondary schools, to be implemented for students in grades 9 and 10.*

Furthermore, Teacher 3 stated, “I taught in grade 11 natural science classes in which students were grouped into separate classes for Afan Oromo and Amharic subjects; however, they were in a mixed class for other compulsory subjects." Teacher 3 added that students, who are taking both Amharic and Afan Oromo subjects in grades 9 and 10, as well as grades 11 and 12, in the social science stream, were grouped into mixed classes for Afan Oromo and Amharic subjects; they were also in a mixed class for other compulsory subjects. According to Teacher 3, "Students in grades 9 and 10 who are taking only the Amharic subject, and natural science stream students in grades 11 and 12 who are taking either an Amharic or an Afan Oromo subject are placed in their respective separate classes for all subjects.” Generally, boarding school teachers thought that there is no instructional practice beyond content coverage given in textbooks. Students also mentioned that the teaching practices of most subjects in boarding schools were more focused on content coverage than providing students with in-depth and advanced content. It is similar to the regular school teaching practices except for the laboratory equipment and practice available for science subjects in the boarding school.

Types of Curriculum Differentiation Practices within the Special Day School

Table 4 presents data regarding the types of CD practices used at the special day school. The special day school's subject and stream offerings to students in grades 9 through 12 were obtained from the students' grade rosters.

Table 4

Available Types of Curriculum Differentiation Practices within the Special Day School

Grade level	Streams	Subjects offered for students in grades 11 and 12 special day school in 2022
Grades 9 and 10	---	**Compulsory subjects:** Amharic, English, mathematics, physics, chemistry, biology, civics and ethical education, ICT, physical education, geography, and history.
Grades 11 and 12	Natural Sciences	**Compulsory subjects:** Amharic, English, mathematics, physics, chemistry, biology, civics and ethical education, ICT, physical education, and technical drawing.

Table 4 shows that students in the special day school are admitted only to the natural science stream at the beginning of grade 11. Grades 9 and 10 students also take the same kind of courses offered in the regular national curriculum of grades 9 and 10. Participants in the FGD from the special day school also disclosed that all students in grades 9-12 have no opportunity to choose among subjects, and students in grades 11 and 12 join only the natural science stream. A student noted that:

> *In our school, students in both grades 9 and 10, as well as grades 11 and 12, study the same set of subjects. Specifically, students in grades 9 and 10 have access to courses in Amharic, English, mathematics, physics, chemistry, biology, civics and ethical education, ICT, physical education, geography, and history. Meanwhile, students in grades 11 and 12 are offered courses in*

Amharic, English, mathematics, physics, chemistry, biology, civics and ethical education, ICT, physical education, and technical drawing.

The participants in the FGD further revealed the presence of highly qualified teachers in the school. The students reported that the teachers enrich the regular textbooks with advanced or university-level content. One of the participants mentioned that "Despite containing only two paragraphs of content in the biology textbook, the topic of bacteria is extensively covered by teachers. They delve into the subject matter deeply, dedicating entire chapters to it both in the classroom and during laboratory sessions."According to Principal 2 "The existing common curriculum is the minimum requirement to cover in our school because committed teachers who have at least a master's degree try to meet the exceptional learning needs of our students by updating and expanding the existing curriculum contents." Principal 2 continued, "We have made an effort to meet the interests and choices of our students by employing university instructors who are highly qualified and dedicated and provide well-equipped and resourced learning classrooms, laboratories, and the library." Teacher 5 also affirmed that:

Certainly, our school caters to exceptional students who have achieved top marks at the eighth-grade level. However, we do not offer a social science stream nor do we assign students to different subjects based on their placements. Instead, our students benefit from highly qualified teachers who can meet their academic needs by digging deeper into and advancing the content of the common national curriculum. Each teacher is committed to imparting advanced knowledge and skills by utilizing supplementary materials

and alternative teaching methods while covering the same topics outlined in the textbooks.

Strengthening this, Teacher 6 stated that "… students uniformly possess the highest academic abilities, enabling them to grasp the subject matter outlined in the national common curriculum independently. Consequently, we focus on extending their knowledge and skills to advanced levels by implementing diverse instructional techniques." Teacher 7 affirmed that although the curriculum is the same for all students across the country, our school is exceptional in meeting the needs of our students due to its small class sizes, teaching-learning resources, and teachers' emphasis on advanced knowledge, creativity, research skills, project work, worksheets, and laboratory rather than tests and examination practices.

Although the special day school has no additional subjects or streams for students, its teachers take the responsibility of enriching the common curriculum to meet the students' needs and abilities. This is similar to what has been categorized as differentiated instruction in the literature. As there is no national guideline or standard that guides special day school curriculum, teaching, or assessment, this practice, however, rests mainly on the practice of teachers.

Student Experiences in Boarding and Special Day Schools

The data obtained from the participants about academic or schooling and psychosocial experiences of students in boarding and special day secondary schools are presented hereunder.

Academic Experiences of Students in Boarding and Special Day Schools

One of the boarding school's FGD participants stated, "Unlike regular schools, the boarding school gives far more focus to academic learning success than other components of success like social relationships with others." Another student also mentioned the contribution of the teaching and learning environment to their excellence in academic achievement:

> *The boarding school's environment fosters higher academic achievements among students due to several contributing factors. These include the presence of highly dedicated and specialized teachers, easy access to the Internet for obtaining a variety of learning sources, students with extraordinary abilities that allow for cooperation and mutual assistance, a well-resourced library, functional laboratory facilities, and a favorable dormitory environment.*

One of the students in the special day school also stated that "the only resource available for our academic success is our teachers' quality and their appreciable roles supplemented by well-equipped laboratories, internet access, and the presence of many high achievers who cooperate and help each other to attain our maximum potential." Compared to other regular schools, students claimed that the special day school does not offer any unique academic-related services to meet their demands and interests. They argued that their exceptional academic excellence during national school leaving exams in this special day school (compared to other students' achievement in regular schools) is influenced by their ability and teachers' effort to delve into the in-depth learning of academic contents.

While students are relishing the teaching and learning environment, there appears to be frustrations and stress due to the stiff competition. One of the students in the boarding school stated that "being in the boarding school, we often feel frustrated due to the intense competition among high-achieving students to secure a position among the top three ranked high achievers in each classroom."

The principal also reiterated that the boarding school has better educational inputs, better teacher qualification and preparation, special care for students, and full-time attention to students' learning compared to regular government schools. The principal reported, "There are costs incurred by the government, teacher effort, and sacrifices made by parents and students to enhance academic achievements." Teacher 1 further stated, "girls in our school are free from household tasks, and they devote their full attention to their learning. The unique benefits also include each student and teacher having access to a personal computer, as well as to the internet and a digital library. Teacher 5 of the special day school added, "Since all of our students were selected as high achievers, grouping them into special day schools helps them to cooperate and support each other in learning and searching for scholarships." Principals of both schools reiterated that the presence of quality educational inputs, teachers, and highly able students compared to other government regular schools contributed to almost all students' higher achievement during the Ethiopian secondary school leaving exams. Principal 2 noted that "the availability of quality resources in the special school coupled with the students' strong academic background has consistently propelled all of our grade 12 students to achieve top-ranking results in the Ethiopian secondary school leaving examinations over the past five years."

Schooling Experiences of Students in Boarding and Special Day Schools

Some of the students in the boarding school are relieved from financial expenses. The principal of the school stated that "in our boarding school, students need not worry about financial constraints, as the institution covers all educational expenses, including the provision of personal computers, internet access, meals, and accommodation. Additionally, students can receive financial aid from sponsors, further alleviating any financial burdens." The principal also underlined that the boarding school protects the students from sexual abuse or harassment as they receive proper protection in the school. The teachers also reported the importance of providing students with dormitories, meals, internet, and other teaching and learning resources, which enables them to focus on academic tasks and excel in their performance. Additionally, a teacher noted that high-achieving students often collaborate in completing assignments, fostering a supportive academic environment.

Psychosocial Experiences of Students in Boarding and Special Day Schools

Students in the boarding school reported that the school environment is very conducive to teaching and learning. They specifically identified the absence of peer pressure and the presence of a strong disciplinary culture in the boarding school. One of the students stated "Unlike regular schools, our boarding school fosters an environment free from peer pressure, abusive behavior, or negative interactions among students. Adhering to the strict school rules is paramount for students to succeed in this environment." Students in boarding schools have also recognised significant improvements in their time management and self-control skills, as they are required to manage various situations independently, without the direct support of

parents. One of the students reported that “at our boarding school, we have improved our time management and self-control skills. Without the pressure of additional tasks imposed by parents, we have gained independence in managing our studies and personal hygiene practices.” Furthermore, students highly appreciate interacting with peers from diverse backgrounds and with varied behaviors.

Students in the special day school appear to be stressed because of the excessive focus on academic performance. One of the students in the special day school reported that “the special day school’s main emphasis is academic success or full concentration on students’ academic progress. Even if some parents attempt to address this burden, such a practice disregards many of our needs and abilities outside of the academic area." Another student asserted that “the school's exclusive emphasis on academic achievements fosters a demanding and competitive environment among students, leading to psychological stress for many of us."

While the boarding school students did not report feelings of detachment from their parents or stress, the principal and teachers expressed concern over the emotional detachment students may experience from their families and the presence of some degree of stress among them.

Lack of equitable access to all students

Students in the special day school raised equitable access to special day school. One of the students in the special day school proposed that “special schools in Ethiopia should prioritize enrolling all eligible students across Ethiopia, as these institutions utilize valuable public resources to provide enhanced knowledge and skills to only a small fraction of eligible students, leaving the majority excluded.”

Interestingly another student also argued whether enrolling small number of students in special day school is efficient and equitable utilization of resources. The student inquired that "treating only small numbers of students results in a small number of qualified graduates who are employable and a large number who are not."

One student comprehensively appears to question the usefulness of special day school for the majority of the students who have no access to special day school. The student stated that:

> *Attending this special day school enables us to learn a lot from our peers and better-trained teachers, which can positively impact our academic performance. However, it is concerning that the school only admits a limited number of high achievers, leaving out many exceptionally talented students due to various factors, such as a lack of access to school announcements through social media and the school's limited capacity for new students. If this trend persists, it may lead to inequality and inequity among individuals in their future societal roles, with some students being favored over the majority in terms of educational opportunities.*

The unintended impact of the expansion of special day schools on regular school students

Some teachers questioned whether enrolling high-achieving students in special day schools could impact the teaching and learning in regular secondary schools. One teacher inquired if the focus on boarding and special day schools would weaken regular secondary schools. Another teacher also suggested that regular secondary schools could benefit from enrolling high-achieving students as they would become role models for other students.

Discussion

Although the Ethiopian Ministry of Education's general education curriculum framework in 2020 provides for various types of curriculum differentiation, this has not yet been implemented in secondary education. All 9th and 10th-grade students across the country must take the same subjects, with the option to include additional subjects in their mother tongue and a federal language but no opportunity to choose other subjects, fields, or other types of CDs. In grades 11 and 12, students can choose either the natural sciences or the social sciences stream. Now, in the 2023/24 academic year, all students in grades 11 and 12 in regular secondary schools are required to study seven subjects in the natural sciences stream and six subjects in the social sciences stream. The practices of stream differentiation in grades 11 and 12 and the option to include the mother tongue and a federal language subjects in grades 9 and 10 are mandated by the Ethiopian Ministry of Education letter written on February 2023 to regional states and city administrations.

It is often reported by top regional and federal education leaders that the primary aim of both boarding and special day secondary schools is to cater to the exceptional abilities of high academic achievers in the fields of science, technology, engineering, and mathematics (STEM), which cannot be fully addressed in regular secondary schools across Ethiopia. However, it is notable that all boarding school students in grades 9 and 10 in the study area are required to take subjects similar to students in regular secondary schools. The only difference is that students in boarding schools have the option to study either Afan Oromo or Amharic, or both languages. Additionally, boarding school students in grades 11 and 12 have the choice of selecting either a natural sciences or a social sciences stream, similar to their

counterparts in regular secondary schools. Consequently, boarding school students in grades 11 and 12 have virtually identical subject choices and stream options to those available to regular students.

All students in grades 9 and 10 at the special day school are required to study only compulsory subjects, while students in grades 11 and 12, particularly those in the natural science stream, must complete only compulsory subjects. This is entirely identical to the curriculum requirements for regular students in grades 9 to 12. However, students in grades 11 and 12 have no opportunity to enroll in the social science stream. Unlike boarding school students, language subject choice and stream differentiation are not available for all grades 9 to 12 students at the special day school.

The special day and boarding schools in Ethiopia have the same curriculum as regular secondary schools. They teach their students the same subjects and streams, contrary to the literature on curriculum differentiation and practices in many other parts of the world. The primary distinction lies in the superior educational facilities and teaching staff of boarding and special day schools. In fact, teachers in special day schools enhance curriculum content and instructional strategies to meet the learning needs of high-achieving students.

Students and teachers at the special day school have reported that the curriculum is enriched through the use of various instructional strategies and resources aimed at deepening subject knowledge and skills. As part of this enrichment, students in the special day school engage in various practical and well-equipped laboratory work in subjects such as physics, chemistry, ICT, biology, and language laboratories. These practices suggest that the special day school has

differentiated at least the contents taught, the instructional strategies used, and the learning environments employed to address the academic abilities and interests of its students. In support of this, several researchers (e.g., Reis & Renzulli, 2015; Tomlinson, 2014) have acknowledged that differentiation of curriculum components—such as content differentiation, instructional process differentiation, and classroom learning differentiation—is a common and effective method of meeting the diverse academic abilities and interests of students within an inclusive classroom.

Based on the current practices observed in both the special day school and the boarding school, it is evident that there is no curriculum differentiation by school type compared to regular secondary schools in Ethiopia. All three types of schools offer similar streams and subjects, with variations of content difficulty levels mainly introduced by teachers during the implementation of the formal curriculum. Consequently, the practices of boarding and special day secondary schools may not effectively address the needs of students in science, technology, engineering, and mathematics (STEM) significantly differently from regular schools.

In this regard, the three Korean special or boarding schools can demonstrate the practices of CD by school type. For example, Choi and Hon (2009) stated that there are three different types of special or boarding high schools for mathematically gifted students in Korea. Its main purpose is to support gifted students in mathematics and science, as regular high schools cannot meet their special needs. As a result, one of the three secondary schools practiced an acceleration system, allowing students to complete the regular three-year mathematics curriculum in one year and facilitating these gifted students' entry into the best universities in their field. The other boarding school has a unique, innovative curriculum in non-academic skills such as leadership,

sport, and artistic performances, as well as offering courses within the national curriculum. The third boarding school introduces advanced courses in mathematics, science, and technology, in addition to a national curriculum. Therefore, all three boarding schools or specialized high schools have different curricula to cater to mathematically and scientifically gifted students because regular high schools are unable to meet their special needs. Although the purpose and practice of such schools should be adapted to the country's context and lessons learned accordingly, the above evidence shows that boarding schools or special day schools do not merely offer the same curriculum and streaming as the mainstream or regular secondary schools. Without such provisions, it is difficult to envision how these schools can effectively nurture the abilities and skills of their students in ways that differ significantly from what students could attain in mainstream schools. In addition, the practice described above shows that universities should be responsive to academically able students in terms of admissions and curriculum organization.

In addition, students in special day schools and boarding schools scored very high grades in the Ethiopian school leaving examinations. Both the boarding school and the special day school place a high value on students' academic achievement. As these students are the highest achievers at grade 8 regional examinations, they would succeed when their secondary education is supported by the best available teaching and learning resources in the country. In this regard, it is necessary for future research to discern the effect of boarding and special day schools on the examination results of grade 12 students, as the current discourse in Ethiopia appears to attribute the high pass rates of boarding school and special day school students in grade 12

examinations exclusively to the schools, rather than considering the strong academic background of the students.

One of the main findings of this study is that students are stressed due to the high level of competition for a top three spot in the class, although some students reported cooperation and support from their peers. Students also reported that excessive focus on academic excellence and separation from parents led to psychological stress. In this regard, several researchers (e.g., Ahmed et al., 2019; Bass, 2014; Behaghel et al., 2017; Kaltsas & Gkaintartzi, 2021) asserted that stringent rules, demanding coursework and students' psychosocial well-being all have negative effects on the boarding school students' academic success.

It is also interesting that boarding school students feel safer and have no peer pressure or harassment. This may be due to the fact that the boarding school only accommodates females. Previous studies showed that teen sexual abuse is more prevalent in boarding schools than in special day schools, which is inconsistent with the present study finding (Demirel and Kurt, 2021; Pfeiffer et al.. 2016). The boarding school in Ethiopia's secondary school system may have stricter rules and regulations than a special day school, which may cause a discrepancy in this finding.

Conclusion and Implications

Boarding and special day schools do not offer an organized differentiated curriculum. Instead, they provide stream differentiation (natural science and social science), and differentiated instruction through improved facilities, qualified teachers and improved laboratories. The absence of clear guidelines regarding the purpose and management of these schools may have contributed to this situation. Due to their

strong academic background and the quality education these schools provide, students often perform exceptionally well on school leaving exams. However, this singular focus on academic achievement falls short of the purpose of boarding and special day schools in the literature. International evidence suggests that boarding and special day schools aim to develop students' potential and abilities by offering them various forms of differentiated curricula. They offer students diverse curricula, flexible choice of advanced subjects based on their ability and interest areas, and offers them flexible pathways to higher education.

If these schools are to continue to function in Ethiopia, organizing differentiated flexible curricula that respond to the abilities, interests, and aspirations of students should be designed. Additionally, since boarding schools and special day schools place great emphasis on academic excellence, it is important that they also focus on promoting students' overall development through various interventions. The organisation and structure of schools should respond to the needs of these students and comprehensive career guidance and counseling services should be provided. These emphasize the need for developing a clear policy or guideline that sets out the purposes, student selection processes, teaching and learning methodologies, structure, and financing of boarding and special day schools.

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