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Message from the Editor,

I am very pleased to inform you that we have published the fourth issue in 2024. As an editor of International Online Journal of Primary Education (IOJPE), this issue is the success of our authors, very valuable reviewers who undertook the rigorous peer review of the manuscripts, and those of the editorial board who devoted their valuable time through the review process. In this respect, I would like to thank to all reviewers, researchers and the editorial board members. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to International Online Journal of Primary Education (IOJPE). For any suggestions and comments on IOJPE, please do not hesitate to send me e-mail. The countries of the authors contributed to this issue (in alphabetical order): Bangladesh, Ethiopia, Northern Cyprus, and Turkey.

Prof. Dr. Nergüz BULUT SERİN

Editor in Chief

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PRACTICE, CHALLENGES, AND OPPORTUNITIES IN REALIZING INCLUSIVE EDUCATION IN SOME SELECTED PRIMARY SCHOOLS OF HOSSANA CITY ADMINSTRATION, ETHIOPIA

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Abstract

Inclusive education is a topic of much debate, but it is widely recognized as a crucial system that aims to provide equal opportunities for all students, including those with special needs, to thrive in regular school environments. This study focused on exploring the practices, challenges, and opportunities related to realizing inclusive education in selected primary schools within Hossana city administration, Haddiya zone, under Central Ethiopia regional state. To achieve this, a descriptive case study methodology was used. The study revealed that the teaching of students with special educational needs currently employs segregation, integration, and inclusion approaches. However, administrative challenges, knowledge gaps, and skill gaps were identified as the main obstacles to achieving inclusive education in the city administration. Respondents also suggested that while there are challenges to implementing inclusive education, there are also many opportunities to do so. To address these challenges, we recommend collaboration among stakeholders and training for school administrators and teachers to increase awareness, knowledge, and skills.

Keywords: Inclusive education, challenges, opportunities, practices, realizing inclusive education.

INTRODUCTION

There is no widely agreed-upon definition of inclusive education, despite the fact that it has been the subject of much discussion in the literature (Namanyane & Shaoan, 2021). Scholars have varying views on the concept's relevance to students with special educational needs. Most believe that inclusion involves placing these students in regular classrooms for the entirety of the school day to maximize their social interaction and benefit (Stainback & Stainback, 1996; Robiyansah, 2020; Idol, 2006). They emphasize that these individuals can flourish in regular classrooms if they are given the right kind of assistance and have their requirements satisfied.. However, others argue that inclusive education is not a viable option for students with diverse abilities and disabilities in regular classes due to inadequate planning, educational provision, and support for their needs (Kluth el al., 2002; McCarty, 2006; Irnsher, 1995). Many think that the greatest way to help people with exceptional needs who need more than regular education can offer is through special education programs. Researchers worry that putting social engagement ahead of these students' needs and compromising education could result from full inclusion (Irmsher, 1995).Though inclusive education is a topic that is often debated, there is a consensus that it is a system designed to serve all students equally, including those with special needs, in regular classrooms. UNESCO (1994) defines inclusive education as a system that integrates all students, regardless of their mental capacity, disability, psychological, physical, or social circumstances, or related differences, in a regular classroom. According to Miles and Singal (2010), inclusive education is a democratic commitment that aims to guarantee equal opportunities and rights for children with

disabilities. It is the right of children with special educational needs to be included in general education settings, as stated clearly in the UNESCO agreements. Clark et al. (2020) describes inclusive education as a system that accepts and encourages all children to study, regardless of their identity, abilities, or needs. This means ensuring that the curriculum, instruction, school facilities, play areas, transportation, and toilets are appropriate for all students at all levels. Under UNICEF's inclusive education framework, all students attend the same schools, which requires overhauling the entire educational system, as well as laws and policies, funding procedures, management, design, delivery, and oversight of instruction, and how schools are organized.

According to various sources, it is estimated that over 5.1% of children worldwide experience moderate to severe disabilities, encompassing physical, sensory, intellectual, or mental health challenges (Ainscow & César, 2006; Clark et al., 2020; Sarton & Smith, 2018; WHO, 2011). Sadly, reports showed that 90% of these children live in developing nations where access to education is limited (Ainscow & César, 2006). Despite international laws guaranteeing everyone's right to education, children with disabilities often face obstacles in accessing, participating, and receiving high-quality education. UNESCO estimates show that between 10 and 16 percent of the population has a disability, yet the number of children with disabilities reported in schools is significantly lower (Ainscow & César, 2006; Sarton & Smith, 2018). For instance, in Uganda, only 1.79 percent of total school enrollment is identified as having disabilities, while in Rwanda and Ethiopia, it is 1.1 percent and .7 percent, respectively according to (Sarton & Smith, 2018). This suggests that many children with impairments are not enrolled in school or are not being identified within current school populations.

In the context of sub-Saharan Africa, only 25% of students who experienced various disabilities, on average, manage to complete all levels of primary school, leading to a high primary school dropout rate (Musenyente & Knigge, 2022). Additionally, there is a significant disparity between the prevalence rate of disabilities (10-16%) and the enrollment rate in schools, which is much lower, at less than 0.7% in Ethiopia (Sarton, E. & Smith, M., 2018). According to a different report, the percentage of disabled children in developing countries who attend school is estimated to be between 1% and 5% (Mwangi & Orodho, 2014). This indicates that the school enrollment rate in Ethiopia is lower than the average for developing nations. Meanwhile Minas et al. (2015) reported a significant increase in the prevalence of children with disabilities in low and middle-income nations like Ethiopia, with the number rising from 0.4% to 12.7%. Due to a lack of resources and awareness, these children may not receive the proper education they need (Hayes, 2017). Ethiopia has initiated steps to integrate children with special educational needs into conventional schools nearby, with the slogan "No one has left behind." However, there are challenges, including a lack of funding, an unorganized educational system, and insufficient knowledge among stakeholders and the general public about inclusive education (Hayes, 2017). Team and Mergia (2020) noted that the South Nation Nationality and Peoples Region (SNNPR) attempted to implement inclusive education but encountered difficulties. The region has since disintegrated, leaving a gap in the implementation of inclusive education. This suggests that further studies and exploration of existing practices and challenges are necessary to appropriately implement inclusive education in Ethiopia (Hayes, 2017; Minas et al., 2015; Team & Mergia, 2020).

In addition, during their prolonged stays in the Haddiya Zone, the researchers of this study, who have extensive experience teaching both disabled and non-disabled students from elementary school through higher education, observed ethnically-based schools where only a certain group of people is segregated. This is an indication that suggests there is a significant obstacle to the implementation of inclusive education. This implies that education in our region is still segregated according to ethnicity, despite the widespread acceptance today that distinctions in color, gender, sexual orientation, or religion should not be permitted to keep people apart from others. This is also confirmed by Yoshida's (2008) study, which revealed that Wayto in the Amhara Region and Fuga in the Haddiya zone of the SNNPR are victims of exclusion. According to research studied by Shaeffer (2019), discrimination based on ethnicity raises the dropout rate, has an impact on psycho-social adjustment, and has an indirect effect on how well students learn.

According to studies, addressing the issue of inclusive education and providing lessons for a global setting requires context-based research (Magnússon, Göransson, & Lindqvist, 2019; Mosalagae & Lukusa, 2016). It is necessary to explore the current setting and features of inclusive education, considering the opportunities, difficulties, and practices both domestically and internationally. However, studies conducted concerning inclusion and children with special educational needs in the context of Central Ethiopia, a recently formed regional state, are limited. Aemiro (2020) also demonstrated that while Ethiopia has legislative and legal frameworks supporting universal access to high-quality education, there is still a significant gap in actualization nationally. This gap has resulted in challenges in implementing inclusive education, including severe ethnic-based discrimination. Given that the inclusion process is dynamic and ever-changing, depending on cultural norms and environmental requirements, there is a need to explore context-based studies in the central regional state of Ethiopia, where isolated groups are not yet addressed. Conducting different studies and forwarding research-based expertise recommendations can help minimize and gradually overcome these problems.

This study aimed to examine the current practices, challenges, and opportunities in enhancing the education system's capacity to cater to the diverse needs of all learners. The Ministry of Education's demand for all stakeholders to be taken into account in this process was a key motivator for the authors of this study, who sought to contribute scholarly work by investigating the situation in the Central region's Hadiya zone. Hence, the objective of this study was to explore the current practices of inclusive education in schools, examine the challenges encountered by these schools in achieving inclusive education, and identify the opportunities available to support the realization of inclusive education. To achieve these objectives the present study was guided by the following leading questions**:**

1. How the schools currently practicing inclusive education?
2. What challenges the schools are facing in realizing inclusive education?
3. What opportunities the schools have that support the realization of inclusive education?

Theoretical framework

The persistent increase in exclusionary educational practices among children with special educational needs has been a significant concern despite ongoing efforts to address the issue (Sarton & Smith, 2018; Timmons, 2010). Children with learning difficulties often lack access to essential resources, physical facilities, and equipment required to support their specific needs, resulting in disproportionate challenges within the education system (Aluko, Omidire, & Mampane, 2022). Furthermore, the lack of supportive leadership, teacher training, and resources, as well as inflexible curricula, presents additional obstacles to inclusive education (Mbua, 2023; Mokaleng & Möwes, 2020; Mumbi, 2011).

Barriers to inclusive education, including those related to socio-economic, socio-cultural, geographical, and school-based factors, hinder learners with disabilities from fully leveraging their innate abilities. It is essential for educational systems to be designed to remove such barriers, as disability should not be equated with inability. Education is a powerful equalizer that should accelerate the social advancement of children with special needs (Aluko, Omidire, & Mampane, 2022; Eunice, Orodho, & EUNICE, 2014). Access to education at all levels, regardless of disability, is crucial for promoting equal opportunities based on individual capabilities.

Despite efforts by national and international organizations to promote inclusive education, many learners are still being educated in segregated special schools in various parts of the world (Yorke et al., 2022). One of the challenges in achieving inclusive education is the lack of a common consensus and clear debates on the scope of inclusive education at a global level (Rapp & Corral-Granados, 2024; Sarton & Smith, 2018).

Inclusive education is a system that strives to promote and uphold the learning of all students, regardless of their background, abilities, or needs. This involves ensuring that the curriculum, teaching methods, facilities, playgrounds, transportation, and restrooms are appropriate for all students, at all levels. Under an inclusive education system, all students receive their education in the same classrooms, and there should be no exclusion. Clark et al. (2020) describes that every child including those with disabilities,

has the right to inclusive education, by the. In an inclusive education system, students are accepted at every stage of education, from preschool to lifelong learning, regardless of their abilities. In educational settings, inclusion means adapting the physical structure, teaching methods, curriculum, and institutional culture to ensure that all students feel welcome and protected from discrimination. According to the Nizar (2011), including disabled students in regular classes without making the necessary adjustments cannot be considered inclusive. An inclusive curriculum eliminates the need for labeling children as special or disabled to receive specialized education and support. In other words, no child is treated differently based on their abilities or disabilities (Stentiford, & Koutsouris, 2022). Under an inclusive curriculum, exceptional and non-special children receive the same level of support and education.

In Ethiopia, three types of school organizations focus on educating individuals with disabilities: regular schools, special units, and special schools (Tonegawa, 2019). Special schools are dedicated to a specific disability, like deaf or blind schools. They can be boarding or day schools and teachers receive additional training in sign language and Braille. However, there aren't many special schools in the country. After completing grades 1-8, students with disabilities move on to regular schools or special units for grades 9-12. Special units are designated classrooms or blocks for students with disabilities, and students can interact with those without disabilities during break time. While they are more common than special schools, special units are not present in every regular school in the nation.

Although there are efforts to promote inclusive education in Ethiopia through various organizations, there is still much progress needed compared to other parts of the world (Tonegawa, 2019; Yorke et al., 2022). While educational institutions are making attempts to accommodate students with disabilities, they are falling short of meeting the essential requirements to achieve true inclusivity. According to Yorke et al. (2022) the role of schools, education goes beyond simply making schools accessible to those who can already attend. It involves identifying and addressing the obstacles and challenges that prevent students from accessing high-quality education and result in exclusion. Inclusive teaching embraces diversity to address different educational needs and learning styles of students. This approach promotes proactive, student-centered instruction over-reactive, teacher-centered methods (Tirri, & Laine, 2017). It involves a broad range of effective instructional practices.

To ensure inclusivity at the school level, a joint, responsible authority is necessary. This study argues that individuals should not be segregated or confined to certain locations due to physical, mental, psychological, or sensory impairments. All human beings should coexist peacefully, demonstrating mutual respect, enjoying equal access to resources, working towards improving humanity, engaging in all aspects of life, and continuously striving to enhance their abilities. Oliver and Barnes (2013) posit that regardless of age, gender, disability, social status, or ethnicity, everyone should be able to coexist as equal members of society, confident that their needs will be met and their opinions will be heard. Therefore, it is imperative to establish an inclusive society that transcends all barriers, including political, economic, and social obstacles. Barton and Armstrong (2001) contend that a stable, democratic, and economically inclusive global society is essential. Thus, the foundation of this study is based on the work of Barton and Armstrong (2001), which advocates for the realization of an inclusive society and calls for a new era where everyone's needs are met with minimal bias or prejudice. This can be accomplished by examining current practices, identifying obstacles, and seizing opportunities to uphold the principles of human rights. This study aims to achieve that goal.

METHOD

Research Design

To gain a thorough understanding of the current state of inclusive education, it is essential to investigate the existing practice, underlying challenges, and potential opportunities in schools. To achieve this, a descriptive case study design was employed to examine the subject in-depth within its real-world context. According to Sarfo (2021), a case study is a qualitative research method that involves a detailed examination of the actual experiences of a real-life subject, which may be a person, an organization,

a program, or a community. The use of the descriptive approach was chosen to gather data and answer questions concerning the current condition of the subjects being studied. This research technique determines and reports the way things are at present. According to Yin (2014), descriptive research involves collecting data to address questions about the current state of the subjects under study. Descriptive studies are typically structured to outline the distribution of one or more cases of a study, without consideration for any causal or other hypotheses (Aggarwal & Ranganathan, 2019). Hence, the descriptive case study design utilized in this research allowed the researchers to gather insights from a diverse group of participants (including school principals, teachers, and experts) regarding the practices, challenges, and opportunities associated with achieving inclusive education.

Sampling

The study included teachers, school administrators, and experts in special needs education from Hadiya Zone in Central Ethiopia Regional State, as well as coordinators of special needs education resource centers at selected primary schools. Hadiya Zone was selected for the study due to its proximity to the researchers' Educational College and government administration seat, making data collection convenient for participants. The researchers used a non-probability/purposive sampling technique to select four primary schools with special classes and inclusive practices and to identify school personnel, teachers, and special needs/inclusive education experts with relevant information on the area. The data was collected in the year of 2023 and study included a total of fourteen participants, consisting of one school personnel, and two teachers from each school, and two special needs/inclusive education experts from both the City Administration and Zone. With the exception of one female expert and one female teacher, all participants were male. Additionally, all participants held first degrees.

Data collection tools

Unstructured and semi-structured interviews were utilized to gather data from school principals, teachers, City Administration, and Zone education units/offices of special needs/inclusive education experts (Education experts). These interview methods allowed respondents to freely express their knowledge, emotions, and desires without any limitations. Additionally, researchers could ask follow-up questions based on the respondents' answers and probe further based on the interviewee's situation and emotions. The researchers developed the interview protocol, which was validated by two education experts and revised based on their feedback. The first expert was chosen for their 20 years of experience in teaching educational research courses at a teacher education college, while the second expert was selected for their experience in publishing articles in educational journals. As a result of their input, the number of questions was reduced, and additional probing questions were added to investigate the issue from various perspectives. The same experts validated the qualitative findings, and themes were revised and renamed based on their feedback.

Data collection procedure

An interview schedule was utilized to gather input from key informants such as school principals, teachers, and experts. The interview questions were carefully crafted to delve into the practices, challenges, and opportunities encountered by participants in their schools and work environments while striving to implement inclusive education. Specifically, teachers were asked about their grasp of inclusive education, methods for accommodating children with disabilities, approaches to assessment, and strategies for adapting materials to meet the needs of children with disabilities. They were also queried about the challenges they faced and the opportunities available to them. Questions for school principals focused on their plans for children with disabilities, how they support these children and their teachers, and the nature of their relationship with the zonal educational bureau and the surrounding community. Meanwhile, questions for the experts aimed to evaluate their support for schools, interactions with school principals and educational managers, involvement with children with disabilities, frequency of school visits, and knowledge about children with disabilities. The interviews were carried out in distraction-free primary school rooms, with the consent of the participants obtained before audio recording the interviews. Each participant's interview lasted between 40 minutes to one hour.

Data analysis procedure

The data collected through interviews were analyzed qualitatively. Ideas were compared and contrasted from all sources and critical analysis was made using qualitative data analysis techniques to establish core themes. In this study, the researchers employed thematic analysis to analyze the generated data. Thematic analysis in qualitative research mostly involves editing, coding, tabulation, summarizing, and interpreting the findings Hancock et al., (2009). Hence, the data analysis involved five key steps: preparing field notes and verbatim transcriptions, carefully reviewing the transcriptions and audio recordings, identifying key concepts and coding the data, generating themes, and finally, presenting and interpreting the data. The detail procedure employed by the researchers is delineated as follows:

The data firstly were transcribed verbatim. To make sense of the data, it was first read and listened to multiple times from different sources. Secondly, to find noteworthy concepts, the text was read again and the audios were listened to again while taking notes. To generate meaning and categorize into groups the words, phrases, expressions, and examples participants provided were recorded, sorted, and re-sorted. This aids in the comprehension and conceptualization of the data by the researchers. This made it possible to determine the most often-used terms, phrases, concepts, and perspectives. This assisted in the identification of several practices, difficulties, and opportunities in realizing inclusive education. The third stage involved reading the text and the identified codes in terms of words, phrases, and sentences once again to make sure the lists of terms were reflective of the entire text, to eliminate any concepts that weren't significant, and to add any points that the second step might have overlooked. With this, the study's key themes were determined. The themes were narrowed down in the fourth step to produce integrative, representational, and significant themes. To confirm the accuracy of the content, valid quotations were included in the final steps (step 5). The themes were gradually sorted and presented in integrated useful findings based on the repetition of occurrences.

RESULTS

Practices

This study aimed to explore the current practices, challenges, and opportunities in implementing inclusive education in selected schools within the Hossana City Administration (HCA). After gathering data from various sources using different tools, the following results were obtained. Education for students with diverse abilities is delivered using various approaches worldwide, including in Ethiopia. Segregation, integration, and inclusion are the three approaches used to educate students with diverse needs. Segregation focuses on providing education to children with similar disabilities within a separate environment. Although this approach has been heavily criticized for its impact on the social skill development of students, it still persists in teaching students with special needs.

This study revealed the existence of a segregated approach for teaching children with special needs in the Hossana city administration. Regarding this, an interviewee, a vice director of a school participating in the study, remarked:

> *In our school from Grades 5-8, there are many students who are traditionally facing social exclusion because of their ethnicity. Children from this group are not allowed to learn from Grades 1-4 in our school and they are forced to learn their primary education (1-4) in a Non-Governmental Organization funded special place "Haro Tasa" which is established to serve children from the minority group only by considering social exclusionary challenges in regular schools. We are sending them to "Haro Tasa" if they are beginners (1-4). After completion of Grade four, they are allowed to start Grade 5 in our school.*

This shows that, in HCA there is a separate system of education provided for serving children/students with special educational needs. The presence of a segregated system of education in the town in one way or another indicates the presence of children/students who have diversified needs but are not allowed to learn in regular schools where they choose and are pushed away to find places that serve them. Integration is also an approach used for teaching students with special educational needs in two different ways. One is putting students with special educational needs in regular classrooms without considering the diverse abilities of learners. The other is physical integration which opens special

class/classes for students who have similar disabilities in a regular school compound and serves them with specially trained teachers. About this, the coordinator of a special needs education resource center, pointed out, "*In our school, we have special classes for Deaf learners in grades 1-4, led by Deaf teachers*." Similarly, another interviewee, a vice director at another school involved in the study, stated, "*We have a separate class for autistic children, known as the O class, where they receive instruction from special needs education professionals*." These responses from the two individuals above demonstrate that schools in the Hossana city administration are incorporating an integrated education system to teach students with varying abilities.

These days, inclusion is the most widely recommended method for teaching students with special educational needs worldwide. This is because it addresses the needs of all students in regular classes and goes beyond issues related to disabilities; hence it is a widely accepted approach. This study also found the presence of inclusion practice in two schools under the Hossana city administration. Regarding this, an interviewee, Special needs education resource center coordinator in one school under the study stated this as:

> *We are sending Deaf students to regular classes when they complete their Grades 1-4 classes in the special classes. Starting from Grades 5-8 our Deaf students are learning in regular classes of the school with hearing students.*

In addition to this, an interviewee, a school vice director in another school in his part stated as:

> *Autistic children who are learning in our special class start learning in Grade 1 with regular students in regular classrooms when they show progress and get approval from their teachers.*

The response forwarded by the above two interviewees clearly shows that their schools are serving students with special needs in regular classes after some years of stay in special classes. This implies that the schools under this study are aware of inclusion and they are practicing to realize an inclusive education system in their school.

According to the results mentioned, one can deduce that there is a practice of Segregation, Integration, and Inclusion approaches for teaching students with special educational needs in Hossana city administration. It is possible to conclude that, in Hossana city administration, inclusion at the beginning level is ignored and children with special needs are denied the opportunity to learn alongside their peers in regular schools closest to their homes. This conclusion is supported by the existence of both segregation and integration approaches that focus on separated education systems that are focused on disabilities.

Challenges

Under this construct with the help of interviews with administrators, teachers, and experts several challenges were identified. Based on the participant's responses three main themes (*administrative challenges, knowledge gap, and skill gap*) and three sub-themes under administrative challenges, and four sub-themes under knowledge and skill emerged.

Administrative Challenges

For constructive and productive implementation of inclusive education, one of the most significant components is reflective, conscious, skilled, transformative administration. This study explored that there were various challenges related to administrative issues. The most commonly viewed challenges were irresponsibility, unplanned work, and lack of creating links with different stakeholders.

Irresponsibility of Administrators

Responsibility of concerned bodies is one of the key aspects of implementing inclusive education in the Ethiopian context in which several limitations are seen. Some respondents do not believe they are responsible for taking action, solving problems related to students' resource scarcity, facilitating different trainings, and following up the ongoing process. They only focus on coordinating normal teacher-student affairs. They try to externalize problems to City and

Zonal administrators, and other governmental bodies. In this regard, one of the interviewees, a school vice director responded as:

> *There is no responsibility or concern to facilitate the education of students with special needs. No one is working seriously on this issue. There is a lack of governmental bodies' follow-up. They are not providing the necessary materials, support, and financial aspects.*

An interviewee, a school vice director in another school under the study also echoed in another way this as:

> *City administration education office experts do not provide training for teachers on how to teach and help students with special needs. They come with checklists and observe the school twice a year but it is not beyond the sack of reporting.*

This implies that the school vice directors are not responsible for leading, facilitating, and being engaged actively in issues related to the implementation of inclusive education. They do not believe that they are responsible for helping, facilitating, and solving all the problems that emerged about inclusive education. They only believe that their main task is leading, guiding, facilitating, and coordinating issues related to regular teaching and learning aspects.

Unplanned works

Planning is a guideline that shows a clear picture of the task aimed to be accomplished. It is a backbone for the education sector in general and for the realization of inclusive education specifically. To realize Inclusive education the system needs to be planned at all stakeholders' levels. Zone and City Administration education offices, schools, and teachers need to provide their plan on how they implement and monitor the system of inclusion. But this mandatory task seems forgotten by the concerned bodies in the City Administration.

Regarding this one of the interviewee, Zone Education Office Special needs/Inclusive education expert said:

> *We plan about the teaching and learning process in Haddiya Zone in general. We do not have specific plan regarding inclusive education cases.*

An interviewee, City Administration education offices Special needs/Inclusive education expert in his part said:

> *We offer a comprehensive annual education plan that includes all school-aged children and students in our City Administration. Our plan does not specifically focus on inclusive education or students with special needs. We believe that all students, including those with special needs, are included in our plan as it is designed for all school-aged individuals*.

Interviewee C, a school director also revealed that: *"As a school we have one annual plan that holds the educational activities of our all students. As any other students children with special needs are included in this plan"*. One of the Interviewee, a teacher in an inclusive classroom who has deaf students disclosed that:

> *I develop yearly and daily lesson plans to teach my students. My lesson focuses on my activities and my students' tasks at specified times. It is about all my students not individually focused*.

The response of the interviewees above implies that holistic planning takes place at all levels of stakeholders and specific educational plans are forgotten. This in other words means that SWSNs are taken as having no special educational needs that do not require individualized plans. The result revealed that students with special needs in Hossana city administration are learning with the education system planned for regular students and they lost the advantage they may get from specific planning that helps the realization of Inclusive Education.

Lack of creating collaborative work

Inclusion is never realized without a strong bond between concerned bodies. Interwoven actions among stakeholders can make the realization of inclusive education simple. On the contrary fragmented tasks and/or isolated tasks of concerned parties can strongly harm the inclusion practice. This study revealed the presence of limitations in stakeholders in creating links between them. Concerning this interviewee, a school vice director stated this as:

> *The City administration education office does not support us financially or even in material related to the issues of students with special needs. It only focuses on the regular education program and leaves the issue of Special needs for the school and Non-Governmental Organizations.*

An interviewee, a teacher in the inclusive classroom on his interview also sated as:

> *Because of communication problem and frustration to order my deaf students I do not ask them to bring their parents whatever it is necessary. In addition to this I never saw a deaf student parent who came to school to deal with teachers about the education of his/her child.*

The connection between schools and the City Administration, as well as the collaboration between teachers and parents of deaf students, is significantly lacking in the Hossana city administration. As a result, it can be inferred that the inadequate coordination among relevant parties in the city administration has hurt inclusive education. This has, in turn, deprived students with special needs of the opportunity to benefit from an inclusive environment that could have been strengthened by better communication and collaboration among the involved parties.

Lack of awareness

Recognizing the needs of students with special requirements plays a crucial role in the successful implementation of inclusive education. Teachers need to be mindful of the specific needs of their students to provide the necessary support. Conversely, a lack of awareness regarding the needs of students with special requirements hinders teachers' efforts to effectively address the diverse needs of their students. In an interview, a teacher from one of the schools involved in the study expressed the following viewpoint:

> *I do not have any information about the term special needs and the presence of such students in my class and the school also does not inform me about them.*

During the interview related to the issue of awareness one of the interviewee, a teacher also responded as:

> *I know some students are from ethnically labeled groups but I have no idea whether these students are under special needs or not*.

This implies that there are teachers who are teaching in inclusive classrooms without having awareness of the presence of varied students who have diverse needs even in a single classroom. The result also shows the presence of teachers who are teaching without any awareness about the issue of special child or special student.

Inability to adapt materials

Teaching materials need to be adapted to make education more suitable and compatible for students with special needs. Teaching without any modification of content, activities and even time gives students with special needs challenges in their education. It hinders them from grasping the necessary knowledge expected for the level they are within. In line with this, one of the participant teacher stated as:

> *I mainly focus on covering the text book because that is expected from me. In addition to this, frankly speaking, I do not know how to adapt teaching materials based on the needs of deaf students*.

In addition, a teacher who has autistic students in her classroom said: "I am teaching similar content for all of my students from the textbook". This revealed that the focus of teachers in inclusive classrooms is portion coverage rather than translating and contextualizing knowledge by considering the diverse needs of the students. From the responses of the interviewees above it is also possible to say that, teachers who are teaching in inclusive classrooms do not know adaptation of materials in line with the needs of learners with diverse abilities in their classrooms.

Difficulty in employing various styles of learning

The education of students with special needs requires knowledge to deliver content based on the needs of learners. The transformation of content needs the understanding of different strategies for teaching students with special educational needs. For instance, teaching strategies for teaching students with visual impairment are different from the strategies for teaching students with hearing problems, intellectual limitations, autism, and the like. Losing such strategies limits the performance of teachers in delivering content. Concerning one of the teachers said:

> *I know there are students with hearing problems in my class. But I have no idea about the presence of different strategies that help to teach them other than the usual methods.*

Furthermore, a teacher in another school under the study also said:

> *I am a regular teacher and I do not know how to teach and support autistic students using various learning strategies even though there are some such children in my class*.

The result obtained from the above interviewees shows that the teachers assigned in inclusive classrooms teach students with special needs similarly to other students and they do not have knowledge on teaching students with diverse abilities using the strategies that help the learners. This implies that the knowledge gap of teachers in delivering curriculum in inclusive classrooms using varied strategies affects the translation of contents so that in one way or another it affects the performance of students with diversified needs assigned in inclusive classrooms.

Skill gap

Absence of Sign language skill

Skills are important tools for teaching students with special needs. More specifically Sign language and Braille writing and reading skills are two major skills for teaching deaf and blind students respectively. When a teacher fails to use Sign language he/she is unable to communicate with deaf learners. In addition, if a teacher has difficulty in Braille skills that means she/he faces challenges for teaching Blind learners. In line with this, interviewee A, a teacher in the inclusive class that incorporated deaf students states:

> "*Even though there are deaf students in my class our communication is limited with writing because I do not get any Sign language skill training*". Interviewee B, a vice director in a similar school also expressed this "*Unfortunately we do not have any subject area teacher who has Sign language skills from those we assigned in the inclusive classroom*".

The absence of teachers who have Sign language skills in inclusive classrooms vividly revealed that both teachers and deaf learners are challenged in transforming and receiving knowledge because of the communication barrier.

Absence of interpreter

A sign language interpreter is used as a bridge to make communication possible between deaf and hearing persons. When it comes to the education of the deaf, Sign language interpreters play a vital role in translating contents, messages, and information forwarded orally by a teacher or peers who do not use Sign language. To make the classroom truly inclusive, the class either needs to have teachers who have Sign language skills or a Sign language interpreter. Putting deaf learners in a classroom that uses the oral method only and losses interpreters in it makes the communication difficult and affects the education in general. With this regard a vice director in the school who has an inclusive classroom that holds deaf students disclosed that:

> *Though we have a lot of deaf teachers and a few hearing teachers who have Sign language skills, because of financial problems we do not provide even basic sign language training let alone the advanced and translator level one. In addition to this, the absence of payment for interpretation purposes made teachers unmotivated to engage in such activities even if they have the skill.*

The response implies that inclusive classrooms that include deaf learners do not have any Sign language interpreter to facilitate the teaching and learning process and make communication easy. This on the other hand indicates how deaf students are facing challenges to have enough knowledge and skills intended for them.

Opportunities

The present study explored the existence of many prospects for implementing inclusive education in the region; however, their improper utilization stems from stakeholders' deficiency in knowledge and expertise. "What opportunities does the school have to support the realization of IE?" was the question posed by the researchers in this regard. One of the participants provided the following response:

> *Although implementing inclusive education in our school entails a lot of problems, there are also opportunities that we haven't fully utilized. Among them are presence of SNE professionals, deaf teachers, and teachers with various professional trainings.*

According to the response, there is potential for Inclusive education in schools, but they aren't being adequately implemented yet. This could be due to a lack of appropriate knowledge or expertise or to issues with management. A different respondent from a different school also mentioned that many possibilities existed for IE practice in school. As one of the respondent stated that:

> *Regarding the possibilities for IE realization in our school, I cannot lie. The government is giving attention to IE; teachers receive numerous trainings; awareness-raising workshops are conducted; nongovernmental organizations assist; the city administration and zonal education office assigned a focal person; and so on.*

Additionally, the other respondent acknowledges the opportunities that are present in the third school the researchers visited to get data. The response disclosed the opportunities available at the school as:

> *There is the presence of trained individuals, non-governmental organizations attention, and the SNE resource center; there are visits of assigned individuals from governmental organizations, training opportunities, and so forth.*

The results from the respondents showed that though implementing IE in their schools presents certain challenges, there are also many opportunities, including the presence of Non-Governmental Organization support, Special needs education resource centers, trained teachers, deaf teachers, assigned bodies from educational administrations, and Special needs education professionals. The response also suggests that the schools may not be making the most of the opportunities available to them, which could be related to the difficulties discussed in the earlier part of the paper.

DISCUSSION, CONCLUSION, and RECOMMENDATIONS

This study attempted to explore the current practices, overarching challenges, and possible opportunities to realize inclusive education. In the previous section, data were analyzed using the qualitative approach. The study identified three types practices in which the schools are exercising, various challenges that are hindering facilitation of inclusive education, and possible opportunities that could allow responsible bodies to implement inclusive education at school level. In this section, the main result of the study is discussed vis-à-vis literature.

Literature reveals that there are different models of education for children with disabilities presented in international practice with different educational systems and economic conditions and are conventionally leveled as models of segregation, integration, mainstreaming, and inclusion

(Grigorieva, 2022). Globally, in the last three decades there has been a fundamental shift in the education of children with special educational needs away from segregated provision towards a more inclusive approach (Das, Sharma & Singh, 2012). This study revealed that some children are forced to learn their primary education (1-4) separately by considering social exclusionary challenges in regular schools. There are also children in special classes from Grade 1-4 that serve only Deaf learners with Deaf teachers in a regular school. This school send deaf students to regular classes (Grade 5-8) when they complete their Grade 1-4 classes in the special classes of the same school. There is also another school that has Autistic children who are learning in a separated special class by special needs education professionals. Similarly this school also sends children to grade one in the same school that shown some progress in the special class. Upon completion of lower primary education, students in special education are transitioned into inclusive classes as they progress to upper primary levels. The successful integration of students with disabilities into regular classrooms expected to be based on several factors, including the physical accessibility of the learning environment, the availability of support services and resources, the training and awareness of teachers and staff, individualized education plans for each student, and the overall inclusivity and acceptance within the school community. However, in reality, these conditions were often not met. Furthermore, the readiness of each student to join the mainstream classroom, including their social and emotional preparedness, as well as their academic abilities, is crucial for a smooth transition and successful integration. This suggests that in the City administration there are three models of education for teaching students with special educational needs. In this regard studies also revealed that the Ethiopian schools follow a mixed approach in which children with disabilities are integrated into mainstream classrooms (Yorke et al., 2022). However, they argue that the shift was not supported with the necessary materials and awareness of the responsible bodies.

According to Mpofu and Chimhenga (2013), school administrators should feel a sense of responsibility toward the academic and socio-emotional development of each student in their school. However, the current study suggests that these administrators did not view themselves as responsible for the education of students with special needs. Instead, they relied on others to manage the inclusion program. Mpofu and Chimhenga (2013) also emphasize the importance of collaborative planning for the education of students with special needs. Unfortunately, the concerned administrators and teachers in the current study did not prioritize planning for inclusion or addressing the needs of diverse learners. First of all, it is required for managers to understand and consider education which allows each child to learn together, be recognized, and be given equal educational opportunities. It is also required for managers to identify children with disabilities who need specially designed treatments. The management of inclusive education can be measured and improved on an ongoing and accountable basis. Studies have shown that management of inclusive education is important which involves the collaboration process to support the practices of inclusive education (Robiyansah, 2020).

Furthermore, the majority of teachers in Ethiopia's educational system are usually prepared to teach the entire class without adequate support for pupils with individualized teaching or a variety of learning requirements.. As a result, these educators need to acquire the knowledge and skills necessary to effectively cater to a wide range of learning requirements and employ diverse teaching methods. UNICEF reports also underscore the necessity of individualized educational plans in meeting the unique needs of students with disabilities in an inclusive environment (Clark et al., 2020). In addition, strong collaboration among stakeholders ensures and enhances the realization of inclusion (Clark et al., 2020). Contrary to this, the current study has found the presence of a poor bond between Zone and City administration education offices with schools and b/n teachers and families as well.

This study uncovered a concerning reality that there are teachers who are teaching in inclusive classrooms and are unaware of the diverse needs of their students with special needs. This lack of awareness has a direct impact on the education of these students. Mpofu and Chimhenga (2013) noted that teaching in inclusive classrooms requires a deep understanding of inclusive education and individual differences. Similarly, some revealed that children with diverse abilities may not receive the education they need due to a lack of awareness (Hayes, 2017). Despite UNICEF's reports emphasis on the importance of adapting curriculum, teaching methods, and physical structures to cater to diverse

needs, the current study found that some teachers were unable to adapt their teaching materials to suit the needs of their learners (Clark et al., 2020). They simply used the texts as they were, focused on completing chapters, and employed the same teaching methods for all learners. It is vital for teachers to have the professional knowledge that is required to provide adequate education to students with diverse needs (Vrasmas & Vrasmas, 2012). However, this study found that some teachers were assigned to inclusive classrooms without the necessary knowledge to teach students with different educational needs.

Furthermore, the findings of the present study highlight the fact that deaf students are frequently instructed through oral methods by teachers who lack the skill of proficiency in sign language. Additionally, it has been revealed that even in inclusive settings, there is a shortage of sign-language interpreters. Tedla and Negassa (2019) have also recognized the language barrier as a critical obstacle that deaf learners encounter in attaining inclusive education.

Recommendations

To sum up, the study's findings revealed that the Hossana City Administration's efforts toward inclusive education are hindered by poor administration and a knowledge and skill gap. To achieve proper education and support for students with diverse abilities, the study recommends that:

- The education offices in Haddiya Zone and Hossana City Administration should establish strong connections with schools that are working towards inclusive education.
- School management effectiveness should be continuously measured and improved in a accountable and transparent manner by Educational offices.
- School leaders need to prioritize creating feasible plans and fostering relationships between teachers and parents of students with diverse needs.
- School leaders and teachers should receive training and awareness sessions from qualified professionals or organizations.
- The Hossana College of Education, being the only college in the regional state, should provide professional, financial, material, and other necessary support to facilitate inclusive education in the Haddiya zone and its surrounding areas.
- It is recommended that the Hossana City Administration, in collaboration with the educational sectors of Hadiya Zone and regional educational bureaus, provide training for teachers and school principals in the following areas: sign language, speech production, curriculum adaptation, teaching methods, classroom management, assessment, and intervention for deaf children.

Limitation of the study

The data collecting tool employed for this study was limited to interviews, which may have restricted the ability to capture a comprehensive understanding of the subject matter. Incorporating additional tools such as direct observation and questionnaires could have provided a more holistic view of the situation. Furthermore, the study was constrained by its focus on a limited number of schools practicing inclusive education, which may have limited the diversity of perspectives and experiences captured in the data. Additionally, the lack of inclusion of children's perspectives in the data collection process is a notable limitation that could have enriched the study findings. These limitations present valuable insights for future research endeavors aimed at comprehensively understanding the practices, challenges, and opportunities associated with implementing inclusive education and devising effective solutions.

Ethics and Conflict of Interest

All ethical rules were observed at each stage of the research. The author declares that he acted in accordance with ethical rules in all processes of the research. The authors declare that they do not have any conflict of interest with other persons, institutions or organizations.

Supporting Institution
Hossana College of Education

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THE RELATIONSHIP BETWEEN EMOTION REGULATION BOTH EMOTIONAL AND PSYCHOLOGICAL WELL-BEING LEVELS IN DISADVANTAGED PRIMARY SCHOOL STUDENTS

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Abstract

The aim of this study is to investigate the extent to which emotion regulation is related to emotional and psychological well-being in disadvantaged primary school students. In the research, "Stirling Scales for Children' Emotional and Psychological Well-being" and the "personal information form" developed by the researchers were used. The sample of the research consisted of 301 primary school students studying in disadvantaged primary schools affiliated to the Ministry of National Education of the Turkish Republic of Northern Cyprus in the district of Lefkosa in the 2023-2024 academic year Pearson correlation tests were used to review the correlation between the children's emotion regulation skills and the scores they got from the Scale for Children's Emotional and Psychological Well-being. Multiple regression analysis was conducted to examine the predictive power of the scores obtained from the scale. The effect of the "Children's Emotion Regulation Scale" on the scores obtained from the "Stirling Scale for Children's Emotional and Psychological Well-being". The overall score was found to be favorably connected with the anger, excitement, fear, and sadness subscales of the Children's Emotion Regulation Scale, as well as scores on the Children's Stirling Scale of Emotional and Psychological Well-Being. The Children's Emotion Regulation Scale's anger, fear, and sadness subscales were found to positively predict Children's Stirling Scale of Emotional and Psychological Well-being scores.

Keywords: Emotion regulation, psychological well-being, disadvantaged students, primary school sudents.

INTRODUCTION

Children from socio-economically disadvantaged backgrounds often face greater challenges across all aspects of well-being compared to their more advantaged peers. Those living in socio-economically disadvantaged areas are frequently confronted with a wide range of stresses in contrast to their more advantaged counterparts (Selçuk, Karakas, Tuncay, & Can, 2022). Individuals who are socio-economically disadvantaged and lack adequate access to cultural resources, often from large families, are deprived of opportunities for healthy growth and development (Mağden & Yaban, 2016).

Multiple studies have shown that it is feasible to alleviate the negative impacts of poverty by providing assistance to enhance children's self-regulation skills in disadvantaged environments (Blair, 2010). On the other hand, distressing life experiences including migration, domestic violence, unstable family situations, and poverty have a substantial adverse effect on the development of self-regulation (Cicchetti & Toth, 2005).

Elevated stress levels have a substantial impact on the basic neuronal mechanisms involved in self-regulation. Nevertheless, treatments that promote the growth of self-regulation show potential in addressing these challenges. The importance of emotion regulation strategies, which play a key role in

managing emotions and determining socio-emotional adjustment, continues to grow (Riediger & Klipker, 2014). emotions during this developmental stage can have a good impact on their current and future mental health. The word "psychological well-being" refers to the processes of emotion control and management. Emotional and psychological well-being depends on effective emotion regulation. Such modulation is expected to improve psychological well-being (Boekaerts, 2011). Disadvantage is an integrated economic and sociological term characterized by many encompassing factors including socio-economic status, income level, education level, and occupation (Kennewell, 2022). Children living in socioeconomically challenged communities confront a variety of challenges that shape the form and scope of their experiences, setting them apart from more privileged children (Buckner, Mezzacappa, & Beardslee, 2009).Multiple studies have consistently shown a correlation between poverty and emotional-behavioral issues. A commonly acknowledged and substantial explanation for this association is that poverty detrimentally affects a child's social, emotional, and cognitive growth due to increased levels of stress in their environment (Shaw & Shelleby, 2014). Stressors can emerge at numerous levels, such as communal level, where individuals may confront violence. Individuals may face severe and unpredictable punishment in the family environment (Margolin & Gordis, 2004), or they may face academic problems, tests, and interpersonal disputes in the school environment (Pekrun, Goetz, Titz, & Perry, 2002). Developing efficient coping strategies to manage these adverse emotions helps safeguard youngsters from enduring mental health problems. An observed correlation exists between an inadequate capacity to control emotions and the development of various mental diseases as outlined in diagnostic and statistical manuals (Berking & Whitley, 2014).

Ltifi et al. (2024) examined the impact of environmental factors on mental health. They found insights into creating more effective treatments for mental healing in relation to emotion regulation based on differences between urban and rural preschool children in Tunisia. Understanding emotional control in different environmental circumstances is critical. Huang et al. (2023) researched psychological well-being across different populations. They examined differences between rural and urban Chinese adolescent populations and found that systems in rural and urban areas influence how people regulate their emotions.

Halleröd et al. (2006) examined the relationship between poverty indices and child poverty, focusing on socio-economic inequalities affecting mental health. Etindele Sosso et al. (2022) investigated the impact of social class, income, and education on emotional well-being across all age groups, examining the link with sleep health and socio-economic status. Young (2013) emphasized socio-economic factors influencing emotional well-being in his study. Hoyland et al. (2019) systematically examined the effect of breakfast on cognitive abilities. Interventions aimed at enhancing well-being in children from low socio-economic status are necessary (Kennewell, 2022). Considering the importance of both emotional regulation and psychological well-being in the development and adaptation of socio-economically disadvantaged children, it is crucial to evaluate the relationships between these constructs (Selçuk et al., 2022).

Emotions are profound and powerful sensations that are subjectively experienced by each person (Reeve, 2014). Emotions are a biological defensive system that involves quickly assessing and reacting to unpleasant stimuli (Cole et al., 2004). The presence of uncertainties about the future elicits worry inside us. Anxiety, in turn, equips us with the necessary preparedness to effectively navigate prospective hazards and motivates us to engage in proactive planning. Hence, emotional competence plays a vital role in our capacity to adjust and maintain psychological resilience (Selçuk, 2023).

Emotion regulation refers to the intentional actions that people take to observe and control their emotional states. Emotion regulation is the control and management of numerous psychological processes associated with one's mental state, stress, and the impact of both positive and negative emotions (Koole, 2009). According to research, changes in the conscious and instinctive parts of emotion regulation occur quickly during early life and become more consistent as children begin school (Eisenberg et al., 2004; Spinrad et al., 2006). Hughes and Leekam (2004) argue that children may

efficiently regulate their emotions by relying on their own levels of emotional awareness, which are subsequently nurtured through language development and socialization.

The development of emotion regulation is directly related to the components of effortful control, the development of executive function abilities (Calkins & Bell, 2009), and context. According to the hypothesis, children's emotional regulation development is influenced by their attachment link, which is then mediated by caring actions (Chiu & Anderson, 2006; Calkins & Hill, 2007).Childhood maltreatment in the early stages may also negatively impact the development of well emotional control (Wismer et al., 2004). Research conducted by Pollack and Sinha (2002) demonstrates that children who experience physical abuse have an increased sensitivity to detecting furious facial expressions and possess an innate ability to adjust to hazardous cues in their surroundings.

The primary emphasis of research on the development of children's emotion control has been on the connections between parents and children. The available literature on the influence of peers on the development of children's emotion regulation is scarce (Shields & Cichetti, 2001). Children who struggle with regulating their emotions are more likely to face social rejection. Additionally, a study conducted by Shields and Cicchetti (2001) revealed that children who exhibit poor emotion regulation skills and have had challenging early life circumstances are more prone to both engaging in bullying behavior and being victims of bullying by their peers. According to Shields and Cichetti (2001), gaining a deeper comprehension of how peer interactions affect the development of emotion regulation in middle childhood may assist in identifying characteristics that contribute to both effective and ineffective coping techniques. This knowledge can also help assess the protective impacts that these relationships have on children. Poverty and hardship often coincide with many variables that heighten the risk of inadequate emotional regulation in children. Raver (2004) states that children living in poverty are at a higher risk of encountering environmental stressors, including increased instability in their neighborhoods and families, exposure to violence, and higher levels of psychological distress among their caregivers. Based on the accurate description of emotion regulation provided by Goldsmith et al. (2008) and Thompson (1994), these stresses will impact the first interactions of children, their perceptions of the world, and the following methods they use to deal with their emotions.

A person's experiences that result in either pleasant or negative emotions are a measure of their emotional well-being. The phrase "hedonic well-being" encompasses a range of emotional states, such as sadness, anxiety, joy, stress, despair, wrath, happiness, and love (Choi, 2018). A common belief is that emotional health is a crucial component of mental wellness (Westerhof & Keyes, 2010). The World Health Organization (WHO) defines mental health as a state of being where an individual is aware of their own potential, is able to cope with everyday stressors, works in a way that is both productive and beneficial, and actively participates in their community (2018). More than only the lack of symptoms, positive mental health also includes things like contentment, self-worth, and emotional equilibrium (Korkeila et al., 2003).Psychological well-being is defined not as an outcome or a psychological state, but as a way of living well and realizing human potentials (Deci & Ryan, 2008). Psychological well-being is critically important for healthy development and is associated with many positive outcomes such as good health, satisfaction, and better national and economic performance (Ruggeri et al., 2020). Research often focuses on the dimensions of well-being rather than providing a general definition, addressing more specific information on this topic (Dodge et al., 2012).Research on well-being is generally derived from two main perspectives: The first one, focusing on happiness, defines well-being as seeking pleasure and avoiding pain, known as the hedonic approach. The second perspective, emphasized by the eudaimonic approach, centers on meaning and personal fulfillment, viewing well-being as achieving one’s full potential (Ruini & Ryff, 2016).

Diener, Suh, Lucas, and Smith (1999) developed another popular psychological well-being model in which well-being is viewed as a broad notion that encompasses human actions. This approach defines psychological well-being in terms of resilience (dealing with obstacles, emotional regulation, and healthy problem-solving) in addition to hedonic happiness (pleasure, happiness) and eudaimonic happiness (meaning, fulfillment) (Tang et al., 2019). These methods contribute to a better understanding

of human welfare by highlighting various aspects of psychological well-being. Subjective well-being has attracted a lot of interest from scholars in the last three decades. These scholars have investigated how society defines "a good innings" and what an individual considers to be a "good life." In addition to psychology, many other fields are covered in this corpus of literature (Dolan, Peasgood, & White, 2008).Based on empirical evidence, this concept can be categorized into three separate components: a cognitive component that involves forming opinions about life satisfaction, and an affective component that encompasses experiencing intense positive emotions and minimal negative emotions (Arthaud-Day, Rode, Mooney, & Near, 2005; Diener, 2006). These components are physically connected; yet differentiated from each other conceptually (Lucas, Diener, & Suh, 1996). Population studies have identified three separate but interconnected components, and some study has shown that happy and negative emotions have varying impacts on the measurement of life satisfaction in different countries (Arthaud-Day et al., 2005; Kuppens, Realo, & Diener, 2008).

Life satisfaction is linked to a strong sense of pleasant emotions and a moderate level of negative emotions, although it is considered a cognitive evaluation that is separate from emotional experiences (Lucas, Clark, Georgellis, & Diener, 2004). Emotional well-being is a critical construct for our health and daily lives. It serves as a cornerstone for sustainable development and welfare at both individual and societal levels (Choi, 2018). Emotional well-being is extremely important for our health and daily routines (Pollard & Lee, 2003). Childhood is a vital developmental period. From the development of brain function, many brain structures and the nervous system rapidly develop during these stages. This time has profound and enduring impacts on the control of emotions, motivation, and social skills. Although emotional well-being is crucial, it has not always been formally included into child welfare frameworks. This might be attributed to the intricate character of increasing and widening the range. Childhood experiences may have a significant impact on an individual's emotional well-being in the future (Choi, 2018). There is significant evidence indicating that mental health issues found in adults may originate during infancy (Kieling et al., 2011). By the time children reach primary school age, they enter a critical period in their psychosocial development1- The foundations of psychological well-being that can influence their future development are usually laid during this age (Dannisworo & Amalia, 2019). To effectively carry out their duties, teachers must maintain their psychological health (Borualogo & Casas, 2022).

This stage is usually when the foundations of psychological well-being, which can influence their future development, are laid (Dannisworo & Amalia, 2019). Ensuring psychological well-being is crucial for teachers to effectively carry out their responsibilities (Borualogo & Casas, 2022).Occurs in the latter years of elementary school (Trudel et al., 2019). In addition, children are vulnerable to stress during this time, and they also face challenges in their psychological development. The combination of higher academic expectations, intricate social dynamics at school, and external influences from family and social circles may pose major challenges for students (Manurung & Aritonang, 2023). Individuals who possess a strong sense of psychological well-being are more likely to effectively use their efforts in order to accomplish their life objectives. As a result, students who demonstrate strong psychological well-being are more likely to succeed academically (Hafilia & Priyambodo, 2022). It may be possible to help children overcome these challenges and develop positive mental health by creating a supportive environment that encourages understanding and efficient emotion control.

The Aim of the Research

The general aim of the study is to examine the extent to which emotion regulation states of disadvantaged children are related to their emotional and psychological well-being.

The Sub-objectives of the Research

1. What is the level of emotion regulation and emotional and psychological well-being in primary school students?

2. Is there a significant relationship between emotion regulation and emotional and psychological well-being levels in primary school students?

3. To what extent do primary school students' scores on the "Children's Emotion Regulation Scale" serve as predictors for their scores on the "Stirling Children's Emotional and Psychological Well-Being Scale"?

METHOD

Research Model

This study is a quantitative and correlational survey that designed to investigate the relationship between emotion regulation states and emotional and psychological well-being among disadvantaged primary school students, as well as to determine whether these variables differ according to various factors. Karasar (2010) described the correlational survey model as a research approach designed to assess the existence and/or extent of variation between two or more variables. This model aims to examine the relationships among variables and provide insights into potential cause-and-effect connections.

Population and Sample

The population of the study consists of primary school students attending state schools under the Ministry of National Education of the Turkish Republic of Northern Cyprus in the Nicosia district during the 2023-2024 academic year. The sample group comprises 3rd, 4th, and 5th-grade students from three primary schools in Nicosia, where disadvantaged students are educated. The sample group, created using a simple random sampling method, consists of a total of 301 students, including 157 (52.16%) Female and male Simple random sampling allows the researcher to easily reach a sufficient number of participants (Büyüköztürk et al., 2009).

Data Collection Tools

Emotion Regulation Scale for Children

The scale consists of 29 items and four sub-dimensions. These are Anger, 9 items in total, Excitement, 5 items in total, Fear, 8 items in total, and Sadness, 7 items in total. The scale was developed by Rydell et al., and the Turkish adaptation of the scale was conducted by Harmancı and Aytar (2022). The Cronbach Alpha value of the scale is .85. In this study, the Cronbach Alpha value of the scale was found to be .82.

Stirling Scale for Emotional and Psychological Well-Being for Children

The scale was developed by Liddle and Carter in 2015 and is a one-dimensional scale. The adaptation of the scale to Turkish was conducted by Akın, Yılmaz, Özen, Raba, and Özhan in 2016. This scale, consisting of 12 items, is a 5-point Likert-type scale. Increasing scores indicate that children's emotional and psychological well-being levels increase. Cronbach alpha value of the scale was found to be .85. In this study, Cronbach Alpha value was found to be .84 for this study.

Data Analysis

At the conclusion of the study, data obtained from the research were analyzed using Statistical Package for Social Sciences (SPSS) 27.0 software for statistical analysis. The distribution of students' demographic characteristics was determined through frequency analysis. Descriptive statistics were provided to establish scores on the "Children's Emotion Regulation Scale" and Stirling Childrens' Emotional and Psychological Well-Being Scale. Pearson correlation test was used to examine the correlations between scores obtained by students on both scales. Additionally, multivariate regression analysis was employed to predict students' scores on both scales.

In Table 1, Kolmogorov-Smirnov tests and skewness-kurtosis values were provided as part of the normality tests for students' scores on the Children's Emotion Regulation Scale and the Stirling Children's Emotional and Psychological Well-Being Scale in the study.

Table 1. Normality tests of the scales.

	Kolmogorov-Smirnov				
	Statistic	df	p	Skewness	Kurtosis
Anger	.075	301	.000**	-.272	.360
Excitement	.107	301	.000**	.081	.082
Fear	.073	301	.001**	-.140	.053
Sadness	.116	301	.000**	-.537	.301
Childrens' Emotion Regulation(CERS)	.041	301	.200	-.067	-.097
Stirling Children's Emotional and Psychological Well-Being Scales (SEPCWBS)	.050	301	.064	-.373	.035

**p<.01

According to Table 1, it was determined that students' scores on the Children's Emotion Regulation Scale and the Stirling Children's Emotional and Psychological Well-Being Scale exhibit normal distribution. For this reason, parametric hypothesis tests were used to test the research hypotheses.

RESULTS

Students' Scores on the Children's Emotion Regulation Scale and Stirling Children's Emotional and Psychological Well-Being Scale

The findings regarding the descriptive analysis results applied to the data to test the problem statement question "What is the level of emotion regulation and emotional and psychological well-being in primary school students?" are given in Table 2.

Table 2 shows descriptive statistics for the study's students' scores on the Children's Emotion Regulation Scale and the Stirling Children's Emotional and Psychological Well-Being Scale.

Table 2. Descriptive statistics of the scales used.

Scale	n	Mean	Std.Dev.	Min.	Max.
Anger	301	25.68	4.28	12	36
Excitement	301	13.18	2.62	6	20
Fear	301	21.32	4.52	9	32
Sadness	301	19.32	3.99	7	28
Childrens' Emotion Regulation (CERS)	301	79.50	11.11	48	107
Stirling Children's Emotional and Psychological Well-Being Scales (SEPCWBS)	301	40.55	7.41	15	55

Table 2 shows that children scored an average of mean = 79.50 ± 11.11 on the overall Children's Emotion Regulation Scale, mean = 25.68 ± 4.28 on the anger subscale, mean = 13.18 ± 2.62 on the excitement subscale, mean = 21.32 ± 4.52 on the fear subscale, and mean = 19.32 ± 3.99 on the sad subscale. The study's students scored an average of mean = 40.55 ± 7.41 on the Stirling Children's Emotional and Psychological Well-Being Scale.

Findings on the Correlation Between Students' Emotion Regulation and Stirling Children's Emotional and Psychological Well-Being Scales

The findings of the Pearson correlation test results applied to the data for the test of the problem statement question "Is there a significant relationship between emotion regulation and emotional and psychological well-being levels in primary school students?" are given in Table 3.

As seen in Table 3, a significant high level of correlation was found between the participants' Emotion Regulation Scale for Children and the anger, excitement, fear, and sadness sub-dimensions of the scale (r=.754; p<.001); (r=.619; p<.001); (r=.743; p<.001); (r=.726; p<.001).

Table 3. Correlation analysis of students' emotion regulation and stirling children's emotional and psychological well-being scales.

Scale		Anger	Excitement	Fear	Sadness	CERS	SEPCWBS
	r	1					
	p						
Anger	n	301					
	r	.432	1				
	p	.000**					
Excitement	n	301	301				
	r	.322	.303	1			
	p	.000**	.000**				
Fear	n	301	301	301			
	r	.379	.261	.392	1		
	p	.000**	.000**	.000**			
Sadness	n	301	301	301	301		
	r	.754	.619	.743	.726	1	
	p	.000**	.000**	.000**	.000**		
CERS	n	301	301	301	301	301	
	r	.367	.286	.388	.348	.492	1
	p	.000**	.000**	.000**	.000**	.000**	
SEPCWBS	n	301	301	301	301	301	301

**p<.01 (Pearson test)
Childrens' Emotion Regulation (CERS)
Stirling Children's Emotional and Psychological Well-Being Scales (SEPCWBS)

While a weak positive correlation was found between the Stirling Scale of Emotional and Psychological Well-being for Children scores and the anger, excitement, fear, and sadness sub-dimensions of the scale (r=.367; p<.001); (r=.286; p<.001); (r=.388; p<.001); (r=.348; p<.001); A moderate positive correlation was found with the Emotion Regulation Scale for Children (r=.492; p<.001).

Findings from Regression Analysis Predicting Childrens' Emotion Regulation Scale Scores on Stirling Children's Emotional and Psychological Well-Being Scale

The findings of the multivariate regression analysis results applied to the data for the test of the problem statement question "To what extent do primary school students' scores on the "Children's Emotion Regulation Scale" serve as predictors for their scores on the "Stirling Children's Emotional and Psychological Well Being Scale?" are given in Table 4.

Table 4. Regression analysis results predicting children's emotion regulation scale scores in relation to the stirling children's emotional and psychological well-being scale.

	Std. Pos.		Std.			F	R2
	β	S.H.	β	t	p	p	AdjR2
(Constant)	14.715	2.748		5.356	.000**		
Anger	.331	.103	.191	3.215	.001**	23.773	.243
Excitement	.253	.162	.090	1.567	.118	.000**	.233
Fear	.389	.093	.237	4.168	.000**		
Sadness	.296	.107	.159	2.768	.006**		

**p<.01 (Multivariable lineer regression analysis).

Table 4 presents the outcomes of the multivariate regression analysis performed to predict the scores on the Stirling Children's Emotional and Psychological Well-Being Scale based on the Children's Emotion Regulation Scale scores of the participants. The analysis revealed that the scores from the anger (β=.191, p<.01), fear (β=.237, p<.01), and sadness (β=.159, p<.01) sub-dimensions of the Children's Emotion Regulation Scale significantly and positively predicted the Stirling Children's Emotional and Psychological Well-Being Scale scores. In contrast, the scores from the excitement sub-dimension did not show a significant predictive relationship with the Stirling Children's Emotional and Psychological

Well-Being Scale scores (β=.090, p>.01). Collectively, these variables accounted for 15% of the variance in emotional regulation and psychological well-being scores for children.

DISCUSSION, CONCLUSION, and SUGGESTIONS

The main aim of this research was to examine the relationship between emotion regulation states and the levels of emotional and psychological well-being among disadvantaged primary school students. The results indicate that there is a significant and positive relationship between these variables. According to the analysis, it was found that the scores students obtained from the anger, fear, and sadness sub-dimensions of the Emotion Regulation Scale for Children significantly and positively predicted their scores on the Emotional and Psychological Well-Being Scale for Children. Children's emotional and psychological well-being rises as their emotion management improves positively. A full understanding of emotions and emotion regulation in childhood is considered crucial for a person's lifelong emotional development (Cracco, Durme, & Braet, 2015). It was found that only the excitement sub-dimension scores of students' emotion regulation did not significantly predict the scores on the Stirling Children's Emotional and Psychological Well-Being Scale. Başaran, Erol, and Yılmaz (2020) found in their research that there is a positive relationship between the emotional and psychological well-being of their students and their psychological resilience.

A study by Kiye (2023) showed that as the level of psychological well-being increased, the levels of the positive dimensions of cognitive emotion regulation also increased. The study conducted by Karaş and Altun (2021) demonstrated that the emotion regulation abilities of preschool children improved alongside their temperament traits of warmth-shyness, as well as with the increase in parents' age, emotional intelligence levels, and psychological health status. A study by Akyıl (2019) examined the relationship between childhood traumas, cognitive emotion regulation, and psychological health. It has been found that traumatic experiences in childhood significantly impact psychological health and increase the likelihood of using maladaptive cognitive emotion regulation strategies. In their study, Yurdakul and Cesur (2024) found that as children's ability to regulate their feelings of anger and sadness increases, their aggression levels decrease. Rıza (2016) discovered a strong and positive relationship between psychological well-being and adaptive cognitive emotion regulation strategies. These findings appear to be consistent with other studies in the field. When both the literature review and our research findings are considered, it is evident that primary school students' emotion regulation significantly influences their emotional and psychological well-being Factors such as parental education level, socioeconomic status, and academic performance have a simultaneous positive influence on both emotional regulation and psychological well-being. According to Özlü and Serin (2021), enhancing the social adaptation skills of primary school students should be a key focus for educational institutions, as these skills are strong predictors of future success. Furthermore, the development of emotional regulation in children is closely linked to greater psychological well-being and improved socio-emotional competence. This research emphasizes the enhancement of emotional regulation in children from disadvantaged backgrounds, examining how emotion management can be improved in less favorable conditions and its connection to psychological well-being. It argues that children's attempts to regulate their emotions may act as a protective mechanism against particular stressors. The study suggests incorporating emotion management strategies into interventions, based on the premise that emotional regulation contributes to improved psychosocial well-being. In recent years, the focus on psychological well-being has gained significant importance in fostering better educational outcomes for both teachers and students in school environments.

When reviewing the literature, it is seen that the relationship between emotion regulation and psychological well-being has not been studied in disadvantaged children. These findings can guide future intervention efforts aimed at improving emotion regulation and psychological well-being. It is also believed that they can facilitate teachers in schools where disadvantaged children study to support them effectively. This study suggests that when examining children's emotion regulation levels, consideration should also be given to their emotional and psychological well-being. Goals and methods for emotion regulation can be addressed to create educational programs that include exercises to improve

children's emotion regulation skills. It is advised that programs have to be developed expressly for improving emotion control and psychological well-being.

Parents, teachers, and professionals who work in this field can develop strategies fort he purpose of acquiring and using specific emotion regulation skills tailored to the fundamental needs related to children's development and psychological well-being. Activities can be conducted to teach children additional calming skills they can quickly use when they are not regulating their emotions. This effort can ensure readiness and preparedness during times when these skills are needed. This study focuses on the studies about children in disadvantaged conditions, discussions about emotion regulation strategies and solutions for their contribution to well-being should be incorporated to assist children's development and psychological well-being in general. Strategies that focus on teachers' emotional support of students will help them cope with difficult situations that arise on a regular basis.

The study covered a variety of concerns with children's growth and assistance, and it presented recommendations that allow for a new perspective on what can be done functionally, taking into account several aspects assumed to influence these issues. As a result, applying to new studies and research with diverse demographics and sample groups will be useful for identification of differences and similarities. Consequently, employing it in new studies and research with diverse populations and sample groups will help to find differences and similarities The study covered a variety of concerns with children's growth and assistance, and it presented recommendations that allow for a new perspective on what can be done functionally, taking into account several aspects assumed to influence these issues. As a result, applying to new studies and research with diverse demographics and sample groups will be useful for identification of differences and similarities.

Ethics and Conflicts of Interest Approval

The author(s) acted in accordance with the ethical rules in all the parts of the study such as data collection and there is no conflict of interest between the authors. This study was ethically approved by the European University of Lefke Ethics Commission's decision dated 08 June 2023 and numbered BAYEK.028.03. Informed consent was obtained from the participants. No funding was received for the conduct of this study.

Contribution Rate of Authors

The authors contributed equally to this article.

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UNRAVELING THE CRUCIAL REASONS FOR PRIMARY SCHOOL ABSENTEEISM: PARENTAL INSIGHTS

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Abstract

The purpose of this study is to examine the variables that influence student absenteeism, with an emphasis on participation from parents. A survey of 475 parents was undertaken to investigate three major variables: personal, parental, and school-related factors. Personal variables refer to individual student behaviors, parental variables indicate parental involvement, and school-related variables to institutional factors influencing the reduction of student absenteeism. To confirm the results' validity, the methodology involves regression analysis, correlation matrix, factor analysis, and reliability analysis. The findings indicate that the model explains a considerable percentage of absence variations, with each predictor having a significant relationship with absenteeism. Personal variables are adversely associated with absenteeism, but parental and school factors have a favourable impact on their attendance. These results emphasise the significance of focused interventions that address personal behaviors, increase parental participation, and develop school support structures to minimize absenteeism and improve student performance.

Keywords: Absenteeism, parental involvement, student behaviors, school support.

INTRODUCTION

School absenteeism, which happens when learners miss lessons while being present at school, is a serious problem that is often connected to disruptive behaviorbehavior and alienation (Kearney et al., 2022; Özcan, 2022; Gonzálvez et al., 2020; Evans & Acosta, 2023; Kearney, 2021). Absenteeism includes partial-day absences, tardiness, and a variety of psychiatric and family-related issues that interfere with continuous school attendance (Li et al., 2021; Brouwer-Borghuis et al., 2019; Keppens, 2022). Numerous studies have demonstrated that missing school significantly impairs learning, academic performance, and overall educational results. (Keppens, 2023; Keppens & Spruyt, 2017; Gershenson et al., 2017; Hancock et al., 2018; Klein et al., 2022; Finning et al., 2019; Bowen et al., 2022). Child learning is negatively impacted by absenteeism, according to a wealth of K–12 studies (Balfanz, 2016; Temte et al., 2022; Eklund et al., 2022; Islam & Shapla, 2021; Gottfried & Kirksey, 2017; Gubbels et al., 2019; Rasasingham, 2015). Aucejo and Romano (2016) found, for example, that skipping just 10 days of school can result in a 0.03 SD drop in English Language Arts (ELA) and a 0.06 SD drop in math test scores. These effects are more pronounced in upper elementary grades and among students who perform poorly (Gottfried, 2009, 2014; Gershenson et al., 2017). Similar to this, Arbour et al. (2023) discovered that in Chile, skipping more than 10% of prekindergarten and kindergarten classes might seriously impair skill development and negate the advantages of high-quality early education. Because absenteeism has a substantial impact on student achievements, policymakers and education professionals in many industrialised countries have given it a lot of attention (Askeland et al., 2015; Rahman et al., 2023; Sainz et al., 2019; Ingul et al., 2019; Kalil et al., 2021; Smythe-Leistico & Page, 2018; Robinson et al.,2018). As a result, previous researchers have attempted to differentiate between various types and causes of absenteeism (Rasasingham, 2015; Kearney et al., 2020; Kearney et al., 2022; Melvin et al., 2019; Gottfried & Gee, 2017; Bamgboye et al., 2017; Corcoran & Kelly, 2023).

Numerous factors have been identified by research, such as socioeconomic status, sickness, absence of parental supervision, school distance, hunger, personal, school community, and harassment (Bamgboye et al., 2017; Corcoran & Kelly, 2023; Kearney et al., 2022; Melvin et al., 2019). Additionally, Kearney (2008) found important risk variables such as lack of parental participation, homelessness, poverty, and school violence. More than 700 possible risk factors for absenteeism have been identified by studies like those by Gubbels, van der Put, and Assink (2019). These include drug misuse, mental health issues, and unfavourable school views. Furthermore, Balkis, Arslan, and Duru (2016) showed that absenteeism is significantly predicted by both personal and familial characteristics, which in turn affects academic results.

While most of the study has focused on absenteeism's causes, effects, and solutions, there is still a considerable vacuum in understanding the significance of parental insights, especially in the Bangladesh setting. However, there has been inadequate study on parental attitudes and their influence on absenteeism in Bangladesh. Evans and Acosta (2023) pointed out that parent-reported absence rates are often lower than those reported by students or schools, emphasizing the significance of parental viewpoints. This study intends to address a research vacuum by investigating parents' perspectives and providing significant insights into the particular causes leading to absenteeism in English medium schools in Bangladesh. The results will help to shape focused interventions and measures to minimize absenteeism, especially by considering family perspectives on the problem.

Conceptual Framework

Absenteeism is directly linked to several detrimental outcomes in behavior, health, academic achievement, cognitive development, and even long-term economic and judicial prospects (Ansari & Purtell, 2018; Ansari et al., 2020; Rumberger, 2020; Kearney et al., 2022; Monahan et al., 2014; Rocque et al., 2017; Hiliya et al., 2022; Mauro & Machell, 2019). A comprehensive strategy is necessary to address the complex problem of school absenteeism, as shown by the conceptual framework (Figure 1) below, which highlights the main variables impacting this phenomenon.

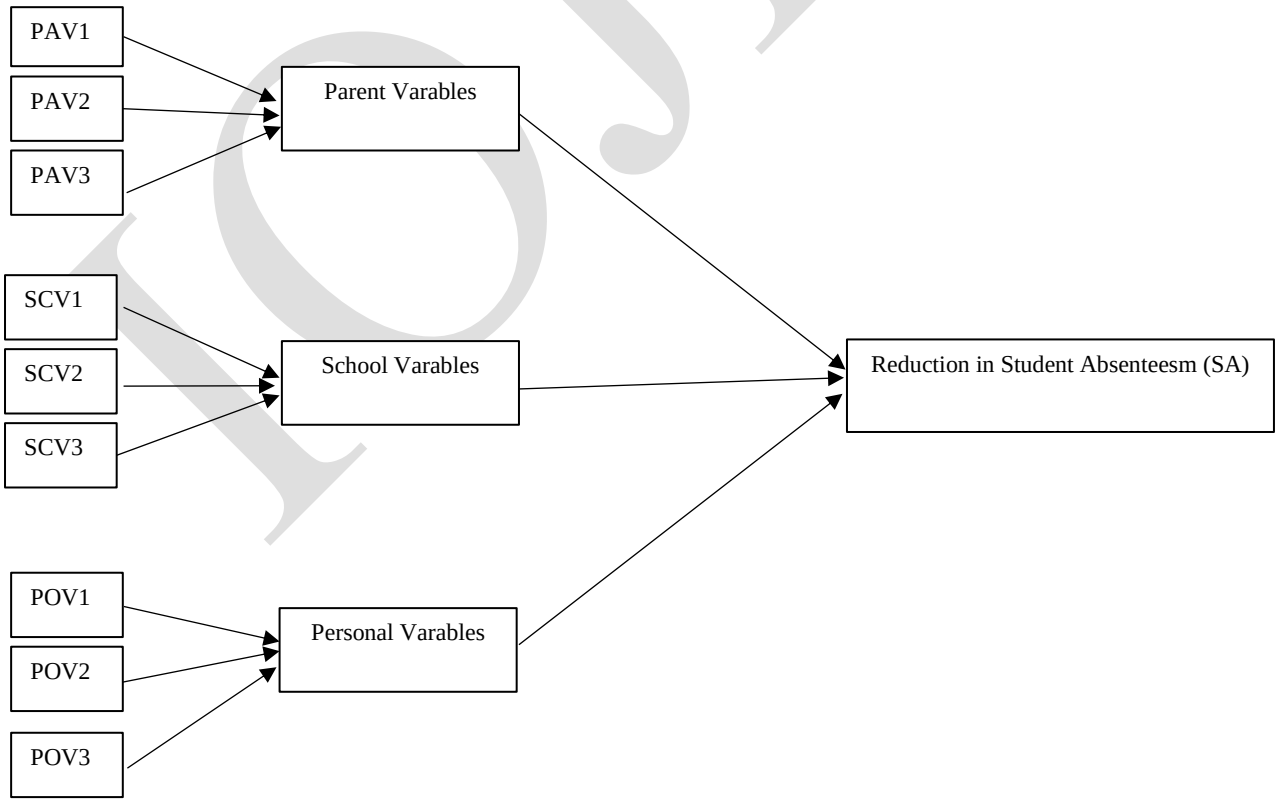

Figure 1. Conceptual Framework

Parentals Variables

Involving parents is crucial for student attendance, as both past and present absenteeism is highly predicted by wider family characteristics, including family care and views (Balkis et al., 2016; Robinson et al., 2018; Hiliya et al., 2022; Kearney, 2008). Particularly, parental involvement—which is characterised by how frequently parents participate in school events and interact directly with their kids—is essential for improving student outcomes because low parental involvement frequently results in inconsistent discipline and low attendance (Hendron & Kearney, 2016; Chung et al., 2019; Li et al., 2019; Moroni et al., 2015). To emphasise the diversity of parental engagement, Ren et al. (2024) distinguished four main categories of parenting behaviors: warm participation (52.6%), disregarding noninvolvement (21.4%), rejecting noninvolvement (21.4%), and rejecting involvement (4.6%). In light of this, Islam and Shapla (2021) found that some aspects of parental engagement significantly impacted K–12 student absences, corroborating recent research on the importance of family involvement in reducing absenteeism (Gubbels et al., 2019; Rasasingham, 2015).. One of the most important factors contributing to school absenteeism is low parent-school involvement, according to Kruithof and Keppens (2024), who claimed that parents who avoid working with the school or who frequently keep their kids at home develop a pattern of absenteeism (Gubbels et al., 2019).

School Variables

School can be a difficult environment for students who are lonely, anxious, or have strained relationships, resulting in lower motivation, a dislike of school, and increased absenteeism (Finning et al., 2020; Kohli et al., 2017; Sanders, 2022). A negative or moderate school climate has been related to greater rates of absenteeism, truancy, and other behavioral difficulties, with chronic absenteeism more common in such circumstances (Bradshaw et al., 2014; Kearney, 2008; Van Eck et al., 2017). According to Benoit et al. (2022), students may doubt the usefulness of attending schools that fail to address significant issues such as climate change, which might lower their enthusiasm to attend. Additionally, Jacobs and Collair (2017) discovered that students' expectations for their careers were severely impacted by schools' inability to provide them with job-related abilities, even when they felt welcomed by their classmates and instructors. The lack of consistency and support at school was also highlighted by parents of kids who refused to attend, according to Havik, Bru, and Ertsevag (2013), underscoring the need for a stable and encouraging atmosphere. As shown by several studies, absenteeism is influenced by school-related variables (Klein et al., 2022; Liu et al., 2021; Miya et al., 2023; Hiliya et al., 2022; Evans & Acosta, 2023; Gubbels et al., 2019; Özcan, 2022). According to Miya et al. (2023), teacher shortages, inadequate supervision, and insecurity all contribute to high absenteeism in Sokoto East, Nigeria, which lowers academic performance, restricts access to higher education, and raises dropout rates. In addition, Gubbels et al. (2019) observed that absence rates are often greater in schools with poor instruction, subpar infrastructure, strained student-teacher relationships, higher grade levels, inadequate attendance monitoring, and a lack of parent outreach programme. Evans and Acosta (2023) highlighted that under-resourced schools, teacher absence, and poor teaching quality further impede student learning, while Hiliya et al. (2022) noted corruption and inadequate monitoring by school heads as additional causes of increasing absenteeism.

Personal Variables

Personal factors that contribute to school absenteeism include academic performance, health problems, mental anxiety, depression, and behavioral issues (Finning et al., 2019; Piovesan et al., 2012; An et al., 2017; Ingul & Nordhal, 2013; Gubbels et al., 2019; Gottfried, 2009; Balkis, Arslan, & Duru, 2016). Learning challenges, negative school attitudes, higher levels of internalising behaviors, and, for younger children, a lack of prior experience with non-kinship care are among the characteristics of children that have been linked to absenteeism (Gottfried & Gee, 2017; Gubbels et al., 2019). Students who miss too many school days are more likely than their classmates to have anxiety, emotional problems, disruptive behaviors, or even drug misuse (Kearney, 2008; Gubbels et al., 2019; Rahman et al., 2023; Özcan, 2022). According to Heyne et al. (2019), there are also personal variables that contribute to absenteeism, such as a general dislike of getting out of bed in the morning, harsh consequences at school, staying up late, and incomplete assignments. Similar findings were made by Vervoort et al. (2014), who discovered

that greater pain levels were linked to worse academic results, such as more absenteeism. As noted by Özcan (2022), school absenteeism is mostly caused by low academic performance, health concerns, and a lack of social activities, highlighting the complex interaction of personal challenges that can interrupt regular attendance.

METHOD

A survey of 475 primary-section parents was used to undertake a quantitative investigation of the reasons for student absence. The survey was developed using a comprehensive literature study and expert interviews, ensuring that significant variables impacting absenteeism, such as family, individual, and educational institution characteristics, were addressed. To guarantee the findings' reliability and validity, the survey was carefully designed to reduce bias. Strong privacy safeguards were put in place to protect the names of the parents and ensure ethical research standards. Parents' perceptions of their children's absenteeism were acquired using an online survey disseminated via Google Forms, which used a seven-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7). Of the 500 parents who got the survey, 20 were unable to complete it, and 5 replies were invalidated, resulting in a final sample of 475 legitimate respondents. This sample size surpasses the minimal requirement for the planned statistical analysis. The sample size of 475 is appropriate for all planned analyses (Krejcie and Morgan, 1970; Cohen, 1992) since it surpasses the minimal requirement of five times the number of observed variables, as recommended by Tabachnick and Fidell (2013). Participants were chosen using convenience sampling, a non-random selection technique, with an attempt to include schools from various geographic areas to provide a representative sample. To find important patterns and associations, several statistical tests were conducted once the data was collected. These included regression analysis, correlation matrix, Fornell-Larcker test, factor analysis, and reliability analysis. From the standpoint of the parents, this technique offered a thorough grasp of the variables influencing student absence.

RESULTS

Parents Demographics Details

The demographics of primary section students' parents, including gender, age, marital status, employment position, and educational level shown in Table 1.

Table 1. Demographic characteristics of primary section students' parents.

Gender	Frequency	Per cent
Female	298	63%
Male	177	37%
Age		
18–25	79	17%
26-35	318	67%
36-45	61	13%
46-55	17	4%
Marital Status		
Divorced	45	9%
Married	404	85%
Single	10	2%
Widowed	16	3%
Employment Status		
Employed	205	43%
Other	98	21%
Self Employed	123	26%
Student	15	3%
Unemployed	34	7%
Education		
Graduate	230	48%
HSC	48	10%
Post-Graduate	197	41%

Bangladeshi parents' demographic profile concerning their children's enrollment in English medium schools was significantly female (63%) compared to male (37%). Most parents were 26–35 (67%). Married (85%) and employed (43%), most individuals have graduate (48%) or post-graduate (41%) degrees. This profile shows a diverse group of parents who are involved in their children's education, likely meaning they value academic performance and future chances. Understanding this demographic mix is essential for tailoring educational assistance and interventions to individual parent and student needs.

Reliability Analysis

The factor and reliability analysis are shown in Table 2, where the data presented includes factor loadings, average factorial loads, Cronbach's Alpha, and Kaiser-Meyer for items that represent various latent constructs in the model, namely Parent Variables (PAV), Personal Variables (POV), Student Absenteeism (SA), and School Variables (SCV).

Table 2. Factor and reliability analysis.

	Item	Loadings	Average Factorial Loads	Kaiser-Meyer	Cronbach's Alpha
School Variables (SCV)	SCV1	.83			
	SCV2	.80	.84	.77	.93
	SCV3	.90			
Personal Variables (POV)	POV1	.97			
	POV2	.86	.92	.71	.92
	POV3	.95			
Student Absenteeism (SA)	SA1	.75			
	SA2	.90	.87	.73	.97
	SA3	.96			
Parent Variables (PAV)	PAV1	.89			
	PAV2	.92	.93	.78	.91
	PAV3	.97			

School Variables, Personal Variables, Student Absenteeism, and Parents Variables have respective average factorial burdens of .84, .92, .87, and .93. According to these values, the items comprising each factor make a satisfactory contribution to the definition of their respective constructs, on average. Therefore, their constituent parts adequately represent the factors. Each of the constructs has the following KMO values: .77, .71, .73, and .78. Although these are acceptable values, they do not stand out as exceptionally high. Nevertheless, they suggest that the data remain adequately adequate for the implementation of factor analysis. The respective Cronbach's alpha values are .91, .93, .92, and .97. All of these values surpass the widely acknowledged threshold of .70, which signifies a substantial degree of internal consistency or dependability among the components comprising each factor (Hair et al., 2017, 2019; Hayes et al., 2017; Deng et al., 2017). Hence, the constructs that are evaluated by these factors exhibit robust internal consistency. In general, the metrics suggest that the factors are clearly defined, as evidenced by the robust interrelationships and internal consistency of their constituent elements. The data are sufficiently suited for factor analysis, and the factors that have been identified offer dependable depictions of the fundamental constructs.

Discriminant Validity Analysis

The Fornell-Larcker discriminant validity analysis is shown in Table 3, which also displays the inter-construct correlations and the square root of the average variance extracted (AVE) for each construct.

Table 3. Fornell-larcker condition.

	POV	PAV	SA	SCV
POV	.9			
PAV	.02	.9		
SA	.03	.9	.9	
SCV	.5**	.7	.7	.8

To prevent shared variance from surpassing the AVE, Fornell and Larcker (1981) recommended that the square root of a construct's AVE be higher than its strongest correlation with any other construct. But Henseler, Ringle, and Sarstedt (2015) found that when indicator loadings are similar (e.g., .65 to .85), the Fornell-Larcker criterion does not perform well. The Fornell-Larcker criterion demonstrates that Personal Variables (POV), Parents' Variables (PAV), Student Absenteeism (SA), and School Variables (SCV) each have square roots of the average variance extracted (AVE) that are higher than their correlations with other constructs, as required by the criterion. POV exhibits an Average Variance Extracted (AVE) value of .9, which exceeds all the correlations (.02, .03, and .5) linked to it. Similarly, the PAV demonstrates an Average Variance Extracted (AVE) value of 0.9, which surpasses its correlations of .02, .9, and .7. SA has an average value of .9, which is higher than its correlations of .03, .9, and .7. Finally, SCV has an average value of .8, which is higher than its correlations of 0.5, .7, and .7. It was confirmed that the discovered components, namely POV, PAV, SA, and SCV, do represent distinct dimensions and have individual contributions to the model outcomes. As a result, stakeholders can have increased assurance in the model's conclusions and use them efficiently for decision-making.

Correlation Matrix Analysis

The results of the correlation matrix analysis are shown in Table 4, which also depicts the Pearson and Spearman correlation coefficients between student absenteeism and school, parental, and personal factors.

Table 4. Correlation matrix analysis output.

Variables	Personal Variables		Parents Variables		Student Absenteeism		School Variables	
	Pear	Spear	Pear	Spear	Pear	Spear	Pear	Spear
Personal Variables	1	1	.015	.028	.033	.011	.456**	.435**
Parents Variables			1	1	.893**	.916**	.667**	.722**
Student Absenteeism					1	1	.695**.	.735**
School Variables							1	1

The data indicates a significant positive correlation (Pear: .893**, Spear: .916**) between parental variables and student absenteeism. This suggests that higher levels of parental involvement are associated with lower rates of student absence. This suggests that promoting parental participation in education has the potential to decrease rates of absenteeism, therefore improving overall student engagement and academic achievement. This outcome is consistent with the findings of the regression analysis. Moreover, based on a weak positive correlation (Pearson: .033, Spearman: .011), it may be concluded that there is a weak positive relationship between personal variables and student absence. Furthermore, there is a strong positive association (Pearson's correlation coefficient: .695**, Spearman's correlation coefficient: .735**) between student absenteeism and school variables such as problems with teaching quality or the school atmosphere. This highlights the need to tackle the variables that contribute to absence, such as student involvement, school atmosphere, and support services, to enhance educational outcomes and decrease student absenteeism. Furthermore, a moderate positive correlation (Pearson's r = .456**, Spearman's rho = .435**) has been found between personal variables and school variables, emphasizing the crucial role of individual student behaviors in educational institutions. Student counselling is necessary to ensure consistent academic outputs that are aligned with the formal education system. The researcher has observed modest positive correlations (Pearson: .667, Spearman: .722) between the variables of parents and school, indicating that parental engagement may influence multiple facets of school performance or the overall setting.

Multiple Regression Analysis

Table 5 presents the regression summary output, detailing the unstandardized and standardized coefficients, significance values, and collinearity statistics for personal, parental, and school variables concerning the reduction of student absenteeism.

Table 5. Regression summary output

	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics	
	B	Std. Error	Beta	Sig.	Tolerance	VIF
Personal Variables	-.081	.021	-.094	.000	.641	1.56
Parents Variables	.650	.026	.725	.000	.449	2.23
School Variables	.264	.034	.254	.000	.356	2.81

Dependent Variable: Reduction of Student Absenteeism

The coefficients for Personal Variables (-.081), Parents Variables (.650), and School Variables (.264) indicate the estimated influence of each set of variables on the dependent variable. All coefficients are statistically significant ($p<.001$). The beta coefficients, which quantify the standardized effect size, indicate that Parents Variables have the highest standardized effect (.725), followed by School Variables (.254) and Personal Variables (-.094). It emphasizes the significance of parental support and involvement in student absenteeism. If the tolerance values are greater than .3 and the VIF values are less than 5 for all sets of variables, it suggests that there is minimal multi-collinearity among the predictors (Hair et al., 2017, 2019, 2022; Sarstedt et al., 2019, 2021). In addition, the standard errors of .021, .026, and .034 indicate that the coefficient estimates are likely to be quite near to the actual population values.

DISCUSSION, CONCLUSION, and SUGGESTIONS

Similar to earlier research, school-related variables have been shown to significantly influence in the variation of student absenteeism (Klein et al., 2022; Liu et al., 2021; Miya et al., 2023; Hiliya et al., 2022; Evans & Acosta, 2023; Gubbels et al., 2019; Özcan, 2022). English-medium schools in Bangladesh may use contemporary technology, including daily attendance tracking, which has been shown to enhance attendance results, to combat absenteeism (Childs & Lofton, 2021). Furthermore, establishing a connection of trust and support with kids and their families is essential to lowering absenteeism. Strategies that help identify and assist children who have lost considerable learning time, such as early interventions and continuous monitoring, may help accomplish this (Keppens & Spruyt, 2020; Klein et al., 2022). Additionally, schools must make educators responsible for both actively monitoring student attendance and classroom attendance (Odeniyi & Adeyanju, 2020). By encouraging more student participation and support, teacher-student mentorship programmes and skills development activities have also been shown to dramatically lower absenteeism (Mazerolle et al., 2017; Moore McBride et al., 2016; Reissner et al., 2015). Through the use of real-time data monitoring and a collaborative approach to problem-solving, educational institutions may guarantee long-lasting gains in absence reduction (Keppens et al., 2019; Chu et al., 2019; Cook et al., 2019; Lyon et al., 2019).

Parents' variables have a significant and strong positive impact on reducing absenteeism, as demonstrated by significant research findings (Gubbels et al., 2019; Rasasingham, 2015; Kruithof & Keppens, 2024; Hendron & Kearney, 2016; Chung et al., 2019; Li et al., 2019; Moroni et al., 2015). Research suggests that parents who spend more time with their children have a favourable impact on educational results, such as decreased absenteeism (Lui et al., 2020; Lv et al., 2018, 2019; Yap & Baharudin, 2016; Rahman et al., 2023; Özcan, 2022). To combat absenteeism in Bangladesh's English-medium schools, educational authorities may increase family participation by collaborating with organizations to execute targeted interventions and region-specific initiatives. This may enhance parental involvement in their children's school, which reduces absenteeism (Rasasingham, 2015; Mazerolle et al., 2017; Rahman et al., 2023). Furthermore, using text-based and mail-based intervention treatments to offer frequent updates on kids' progress has been shown to successfully decrease absenteeism and improve communication between schools and families (Kalil et al., 2021; Smythe-Leistico & Page, 2018; Robinson et al., 2018).

Personal factors have a slight yet statistically significant effect on absenteeism, which is consistent with other research (Finning et al., 2019; Piovesan et al., 2012; An et al., 2017; Ingul & Nordhal, 2013; Gubbels et al., 2019; Gottfried, 2009; Balkis, Arslan, & Duru, 2016; Kearney, 2008; Rahman et al.,

2023; Özcan, 2022; Heyne et al., 2019). Low-income students, students with disabilities, homeless children, and foster children are among the vulnerable groups that suffer more from absenteeism and more severe learning losses, which can have long-term effects on their academic performance, social standing, and financial stability (Santibañez & Guarino, 2021; Arbour et al., 2016; Mejia & Filus, 2018). To properly address this problem, Bangladesh's education system should adopt early warning systems that integrate information from different sources to offer real-time attendance data, allowing for prompt interventions (Childs & Grooms, 2018; Kearney & Childs, 2023). Furthermore, focusing on growth metrics such as school climate, academic progress, and student engagement can assist in identifying at-risk students and promoting a shift from punitive measures to more supportive, proactive strategies for reducing absenteeism (Zaff et al., 2017; Spruyt et al., 2017; Keppens & Spruyt, 2020).

The study found a statistically significant association between personal, family, and school-related characteristics and absenteeism in Bangladeshi English medium. The regression analysis yields an R-value of .906, demonstrating a substantial positive association between these variables and reduced student absence. Furthermore, the R-squared value of .820 indicates that the model accounts for 82% of the variability in absenteeism decrease, indicating its robustness. The model's statistical significance is supported by an F-statistic of 717.303 and a p-value of .000, indicating that the predictors play an important role in explaining absenteeism variance. This study emphasises the necessity of treating personal difficulties, increasing parental participation, and improving the school environment to minimise student absenteeism. In light of these results, Bangladeshi English medium schools must take a coordinated, multifaceted, and data-driven strategy to address absenteeism. According to Eklund et al. (2022), Kearney & Gonzálvez (2022), Chu et al. (2019), Keppens et al. (2019), Keppens et al. (2019) and Heyne et al. (2019), a collaborative, team-based approach is required for effective absence reduction. Schools may create policies and procedures that promote a positive learning environment by concentrating on the major elements revealed in this research. This could involve incorporating design features like artwork and natural light, which not only improve academic achievement but also promote emotional health and foster constructive relationships between students (Ferreira, Martinsone, & Talić, 2020; Ghaziani, 2021; Manca et al., 2020; Van Dijk-Wesselius et al., 2018; Lindemann-Matthies et al., 2021).

However, this research on student absence has few limitations. The sample size may not accurately reflect the larger population, limiting generalizability. The use of convenience sampling and self-reported data involves possible biases, such as social desirability or a misinterpretation of absentee reasons. Furthermore, concentrating primarily on English-medium schools in Bangladesh limits its application to other settings. Excluding students' and teacher perspectives restricts insights into the fundamental reasons for absenteeism and possible remedies.

Therefore, to improve generalizability, future research on student absenteeism should address the limitations of this study by using a larger, more diverse sample of parents from different demographics, geographic regions, and school types, such as public and private institutions or rural and urban schools. Integrating survey data with information from other sources, such as teacher interviews or attendance records at school, may provide a more accurate picture while accounting for self-reporting biases. External validity may be enhanced by expanding the study to include a range of educational contexts, such as Bengali-medium schools alongside English-medium ones. Last but not least, including the perspectives of educators, parents, and children would provide a more complete picture of absenteeism and help find better solutions.

Ethics and Conflict of Interest

Throughout the study, all ethical guidelines were followed. The author claims that she followed ethical guidelines during all phases of the study.

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IMPROVING VISUAL MEMORY OF PRIMARY SCHOOL STUDENT WITH MATHEMATICS LEARNING DIFFICULTIES: AN ACTION RESEARCH

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Abstract

Students with dyscalculia often face significant challenges in visual memory, which is critical for mathematical learning, particularly in recognizing and differentiating geometric shapes and their properties. This study aims to explore the extent to which an action plan, tailored to the unique learning characteristics of students with dyscalculia, can enhance their visual memory. This study was applied to the visual memory of a second-grade student with learning difficulties in mathematics. Action research, one of the qualitative research designs, was used in the study. The study was conducted over five weeks with unable to read and write student who had received a report of learning difficulties from the Guidance and Research Centre (GRC). A purposive sampling technique was used to identify participant for the study. Pre-test, post-test, action plan, observation notes and records made during the action plan implementation were used as data sources. The data were analysed using descriptive analysis technique. As a result of the implemented action plan, it was observed that the student's visual memory started to improve in the process. It was seen that the student could match the geometric shapes in general but was confused about their names and properties. The student's success rate of 5% in the pre-test reached 40% in the post-test after the action plan was implemented.

Keywords: Primary school, geometric memory, learning disability, mathematics learning disability, visual memory.

INTRODUCTION

Recognizing the uniqueness of each individual, people vary significantly in their learning processes, methods, and pace.The learning varies from person to person; some people learn faster and easier, while others learn slower and more complex. When analysing individuals with slow and difficult learning processes, the concept of "specific learning disability" is encountered (Birol & Aksoy Zor, 2018). Specific learning disability is defined as a neurodevelopmental disorder characterised by low academic achievement in one or more of the existing learning processes of speaking, reading and writing (Taşkın Kuşçu, 2024). Difficulties experienced by individuals with specific learning difficulties in reading are called dyslexia, difficulties in writing are called dysgraphia, and difficulties in mathematics are called dyscalculia (Aracı & Melekoğlu, 2023). In this study, dyscalculia is discussed as a learning disability in mathematics. Within the framework of specific learning disabilities, a mathematics learning disability, namely dyscalculia, reflects difficulties in mathematical performance (İlker & Melekoğlu, 2017). There are many different terms used to describe mathematical difficulties in existing sources. Dyscalculia is a term used to define a learning disability in mathematics, such as 'dyscalculia',

'mathematical disorder' or 'mathematical disability'. In Latin, 'dys' means bad and 'calculia' means counting. Dyscalculia refers to bad counting (Sezgin, 2023).

This study is based on the Cognitive Approach model, which examines the effects of mental processes (attention, memory, perception, problem-solving) on learning. This approach treats learning as an active process and emphasises students' ability to relate new information to their existing knowledge. The cognitive approach emphasises the importance of developing basic learning strategies, information processing models and metacognitive skills for effective teaching (Slavin, 2019). One of the main components of the cognitive approach is the information processing model, which explains the transition of information from sensory memory to short-term memory and then to long-term memory. This model describes how learners perceive, process and store new information. Information perceived in sensory memory is transferred to short-term memory through selective attention. Information processed in short-term memory is stored in long-term memory using strategies such as repetition, encoding and interpretation. Information stored in long-term memory can be retrieved when needed (Schunk, 2020; Woolfolk, 2019).

Research has highlighted the importance of employing differentiated teaching methods that cater to the unique needs of dyscalculic learners. By utilizing multisensory approaches and leveraging assistive technology, educators can develop strategies that assist these students in overcoming the challenges associated with dyscalculia (Wang'ang'a, 2023). The prepared teaching plan should reflect this enhanced understanding and include specific strategies tailored to the needs of dyscalculic students (Kunwar & Sharma, 2020). Additionally, research has shown that individualized training and specific, targeted interventions can be highly effective in improving the accuracy and fluency of dyscalculic students in mathematics (Re et al., 2014).

Dyscalculia is characterized as a multidimensional disability stemming from deficits in numeracy or arithmetic functioning across behavioral, cognitive/neuropsychological, and neural domains (Kaufman et al., 2013).Difficulty with four operations, difficulty numbers, difficulty telling time, difficulty memorising the multiplication table, difficulty understanding the problem and performing its operations, difficulty using and calculating money, difficulty using mathematics in everyday life, insistence on counting with fingers are listed as general characteristics of dyscalculic individuals (Akın & Sezer, 2010; Avcı, 2020; Öztürk et al., 2019). Working memory deficits, problem-solving challenges, and visuospatial difficulties are commonly identified as characteristic traits of students with mathematics learning difficulties. Furthermore, the inability to draw or accurately define simple geometric shapes is frequently observed in students with dyscalculia. (Alkan Nurkan & Yazıcı, 2020). These difficulties experienced by students with mathematics learning difficulties in their educational life can also negatively affect their social life (Büyükkarcı & Akgün-Giray, 2023). Incorrect attitudes by teachers or bullying by peers can make it even more difficult for people with learning difficulties in mathematics, leading to a sense of learned helplessness, a loss of self-confidence, avoidance of situations involving mathematics such as shopping and calculations in everyday life, and mathematics anxiety (Yılmaz et al., 2024).

Geometry is an important area of mathematics that enables individuals to understand the world and develop critical thinking skills. The primary goal of effective geometry instruction is to enhance students' visual thinking and spatial abilities, enabling them to conceptualize and visualize the abstract concepts and relationships inherent in mathematics. (Cantürk Günhan et al., 2022). Geometry education should develop students' memory for shapes and enable them to form mental images of geometric shapes. Moreover, the richness of students' conceptual images of geometric shapes and the interaction between shape and mathematical knowledge are believed to positively support the development of spatial skills (Baş et al., 2015). Starting from early childhood, students who recognise geometric shapes and form them in their minds acquire classification skills by recognising geometric shapes at an early age (Tortop & Bahadır, 2023). Shape, which is the basis of many fields, is an important concept that needs to be acquired (Kesicioğlu et al., 2011). As the understanding of basic shapes forms the foundation for students' future geometry studies, teachers should prioritize fostering this conceptual

understanding by focusing students' cognitive processes on shape groups during instruction (Ölekli, 2009).

Geometric memory includes the ability to recognise shapes, match shapes, remember them, distinguish them, know and compare their properties, and compare their appearance (Olkun et al., 2024). A review of the literature shows no studies on the development of geometric memory. Therefore, there was a need for a study on the development of geometric memory in a student with learning difficulties in mathematics. With the findings of this study, it is believed that the academic achievement of students with mathematics learning difficulties can be increased, and this study can be a guide for teachers who have mathematics learning difficulties in their classrooms (Koç & Korkmaz, 2019). Students with mathematics learning difficulties lag behind their peers in terms of level from primary school, and this difference continues to increase in the future. Early diagnosis and appropriate educational interventions are crucial for fostering an understanding of complex mathematical subjects and concepts. (Mutlu et al., 2019; Filiz, 2021). As the grade level progresses, students with mathematics learning difficulties have more difficulties due to the difficulty of mathematical concepts. Therefore, differences and changes should be made in the teaching process for students with mathematics learning difficulties. This study is important because it shows that dyscalculic students can improve their geometric memory with an action plan prepared according to their learning characteristicsAccordingly, this study aims to enhance the geometric memory of a second-grade student experiencing mathematics learning difficulties.In line with this purpose, the problem of the study was defined as follows: How can a second grade primary school student with mathematics learning difficulties improve his geometric memory using an action plan designed for him?

METHOD

The study used action research, a qualitative research design. Action research is a qualitative research design used in education to improve teaching processes. This method allows teachers and researchers to take a systematic approach to solving a specific problem. Action research helps practitioners to evaluate their own practices and to create a continuous feedback loop with the data obtained in the process (Büyüköztürk et al., 2022). This study involved the development of an action plan to enhance the geometric memory of second-grade students with mathematics learning difficulties, employing an action research model aligned with this objective.

Participant

In this study, the participant was identified through convenient sampling method. Convenient sampling method is defined as collecting data from a sample that is easily accessible to the researcher (Büyüköztürk et al., 2022).

The characteristics that were considered in determining the participant were as follows:

- ✓ No diagnosed mental and auditory problems and no visual problems,
- ✓ As a result of the interview with the class teacher and the pre-test conducted according to his/her level, it was understood that he/she did not have sufficient knowledge about geometric shapes.

Characteristics of the Participant

A student in the second grade of a primary school affiliated with the Ministry of National Education in the Dulkadiroğlu district of Kahramanmaraş province was selected for the research. The student suffers from 'convulsions due to fever'. He has not had any accidents or problems with his eyesight or hearing. He has no disability. No one in his family is physically or mentally handicapped. His mother is a housewife and his father is a jeweller.

The pupil attended preschool for 1 week and then did not continue due to medication. He started school at the age of 6. He changed schools and teachers. He cannot read or write. He only knows the letter 'e', but he is not able to combine it. He cannot count numbers correctly and in sequence. His literacy and numeracy skills are very low compared to his peers. At the request of the family, the student was sent to the GRC, and the GRC gave a report to the student. Since the report was issued, the student has

attended a special education and rehabilitation centre for 3 hours and 40 minutes twice a week. The pupil's motor skills are at a very low level. He is not confident in mathematics. While determining the participant student, the opinions of the student's class teacher and family were taken and the participant was selected according to the results of the relevant field research. Permission for the study was obtained from the participant's family, and the family was informed of the application. Through individual interviews, the researcher established the student's personal and academic status with the class teacher and the parents of the participating student. The student's real name was not used in the study and her pseudo name was determined as Ayşe. The action plan prepared by creating appropriate conditions in the student's home environment was implemented.

Data collection tool

In action research, data can be collected using both quantitative and qualitative methods (Büyüköztürk et al., 2022). In this study, pre-test, post-test, action plan, observation notes and records from the implementation process were utilized as data collection tools. Additionally, expert opinions were sought from two specialists during the preparation of the teaching plan and tests.

RESULTS

The study follows the steps of preparing action plans, implementing the prepared plans, collecting data and analysing the collected data. The study process was started by obtaining the necessary permissions. The participating student's family was interviewed, necessary information about the study was given and the study process was planned. Before implementing the action plan, the researcher prepared a pre-test on geometric shapes to measure the student's geometric memory level. As a result of the pre-test, it was found that the student was not at his/her grade level and the following results were obtained: The student did not know any geometric shapes. Rather than using the proper names of geometric shapes, he referred to them by the names of similar objects.He does not know the properties of shapes and his perception of shapes is very weak. He could not say the word 'rectangle'. Considering the purpose of the study and the participating student's prior knowledge, an action plan was prepared considering the student's needs and deficiencies.

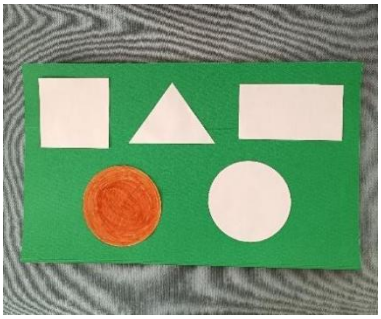
The researchers developed the 20-question measurement tool used as a pre- and post-test. The questions used shapes and symbols that students up to grade 2 should know or be able to simulate. Again, worksheets and digital games appropriate to the grade level were used. A 5-week action plan was prepared and implemented weekly, as shown below.

Action Plan

Week 1

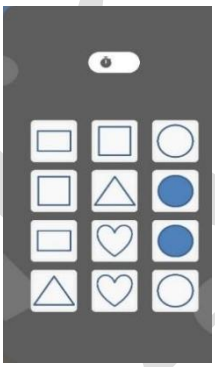
- Watch a story about geometric shapes.
- https://youtu.be/gj-UbbM66Wg?si=udmORFo7k07ByI0m

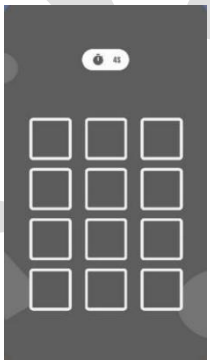
- Talking about geometric shapes and asking questions about the story
- Presentation of the geometric shapes poster and introduction to geometric shapes



- Playing the 'Match Shapes' game via the Learning Apps application https://learningapps.org/view14743880

- Playing the 1st level of the "Geo-Memory" game, which is the software developed by Olkun and his friends
- https://diskalkuli.com/geobellek//

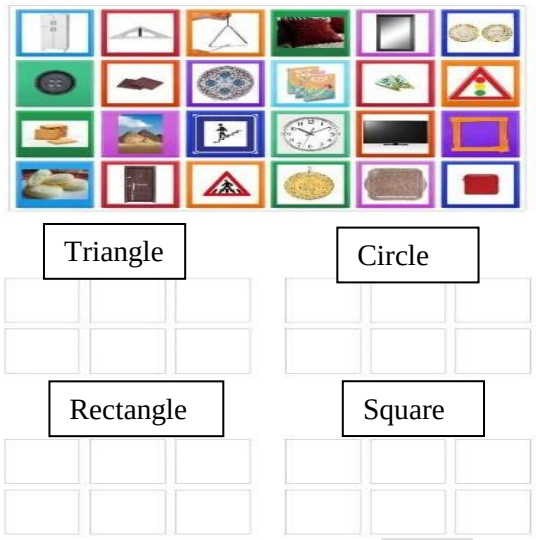




Week 2

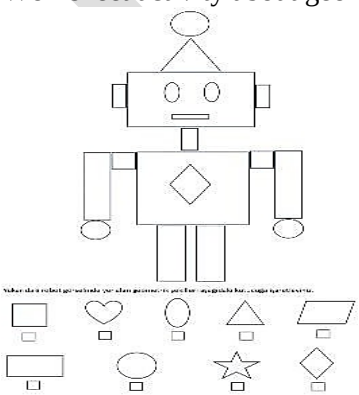
- Opening of the "shapes song" about geometric shapes and drawing of geometric shapes
- https://youtu.be/kZvsvVntB1c?si=ertWyHXRRM-JY-gn

- Opening an activity about geometric shapes on Wordwall https://wordwall.net/tr/resource/27325603



- Playing 'Shape Colouring' game via Matific application https://www.matific.com/tr/tr/home/maths/episode/colouring-shapes/?curriculum=matematik-dersi-%C3%B6%C4%9Fretim-programi-2018&grade=grade-2

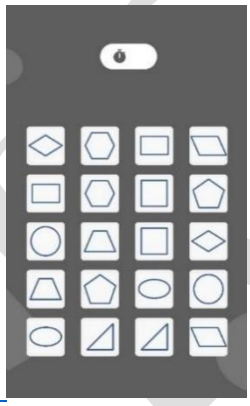
- Worksheet activity about geometric shapes

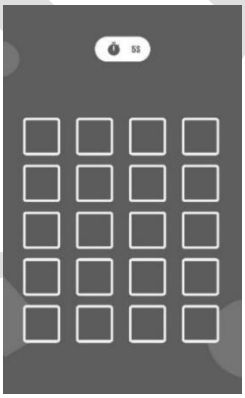


Week 3

- Preparation of the activity of matching of the shapes in the cardboard glass

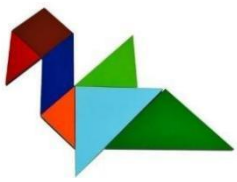
- Making "Geometry Strip" activity
- The second level of the game 'Geo-Memory,' developed as part of the software project by Olkun and his colleagues, was played. https://diskalkuli.com/geobellek//





Week 4

- Create house, cat and bird shapes with Tangram Activity.



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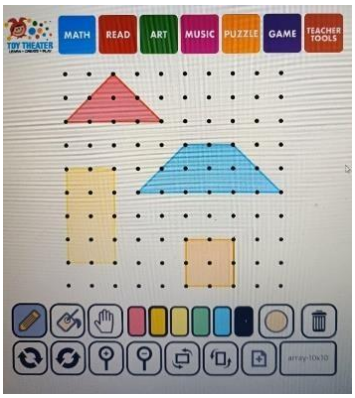
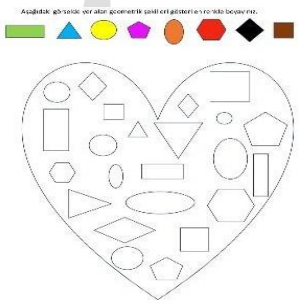
- Activity on the virtual geoboard
- https://toytheater.com/geoboard-shape/



- Play the Geo Bingo game designed by Olkun and shown on the YouTube channel https://youtu.be/20Z9C3siv3Q?si=dQEyeaUaFuio_RCB

Week 5

- Making the activity of colouring the shapes



- Making the activity in the video "We learn geometric shapes and their properties with storage box, van Hiele 1 to 2" shown by Olkun on You YouTube channel
- https://youtu.be/WJ51itqsuJ0?si=Q3oxRoi9IUCBQob8

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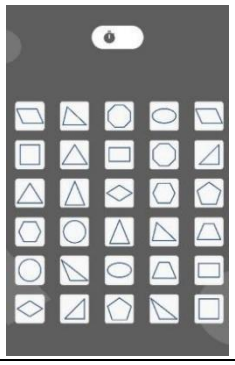
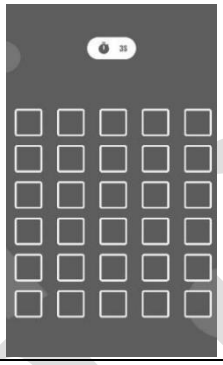
- Playing the 3rd level of the "Geo-Memory" game, the software developed by Olkun et al.
- https://diskalkuli.com/geobellek//





Week 1: The first lesson started with listening to the story to get the student's attention. After watching the story, the student was asked questions about the story and discussed geometric shapes (the link to the story is given below). The student generally gave incomplete and incorrect answers to the questions about the story. After the story, a poster with examples of geometric shapes was shown. The names of the geometric shapes were given to the student, and the student repeated the names. Ayşe tried to understand the shape of the geometric shapes by touching their edges. It was found that Ayşe could not say the word 'rectangle' among the geometric shapes, and she was made to repeat the word 'rectangle'. It was found that the student could not remember the geometric shapes and their names and forgot them very quickly. The story is shown in Figure 1, and the poster in Figure 2.

Figure 1. Story Activity (https://youtu.be/gj-UbbM66Wg?si=udmORFo7k07ByI0m)

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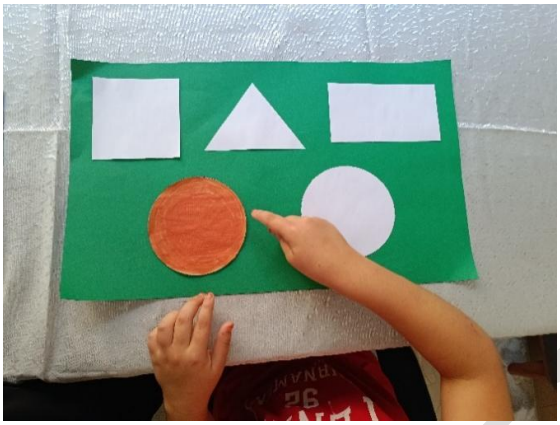

Figure 2. Poster

In the second lesson, the 'Match Shapes Game' was opened through the Learning Apps application, one of the Web 2.0 tools (the link to the game is provided below). The student was asked to match the shapes of square, rectangle, triangle and circle in the game. The student correctly matched square and triangle but incorrectly matched rectangle and circle. Later, the student realised his mistake and matched the rectangle and circle with their correct pairs. After the activity, the 1st level of the 'Geo-Memory' game, which is the software developed by Olkun et al. (The link of the 'Geo-Memory' game is given below). After the student was shown how to play the game by making a sample application, the student started the game. It was observed that the student correctly matched the geometric shapes, albeit slowly, and the total matching time was 140 seconds. The student liked the Geo-Memory game and wanted to play it again. The results are shown in Figure 3 and Figure 4.

Figure 3. "Match Shapes" Game (https://learningapps.org/view14743880)

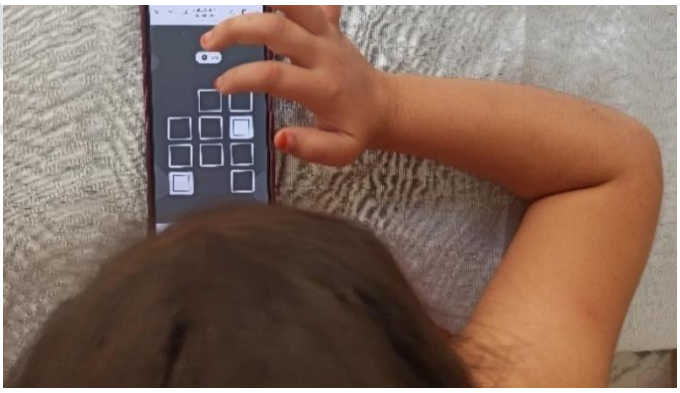

Figure 4. "Geo-Memory" Software(https://diskalkuli.com/geobellek//)

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Week 2: 'Shapes Song' about geometric shapes is opened (Video link is given below). The student is shown how geometric shapes are drawn on video. Following the drawing of each geometric shape in the video, the video is paused, and the student is prompted to replicate the shape and state its name. The student created the general form of geometric shapes but could not draw geometric shapes properly. Then, an activity related to the subject is opened on Wordwall, one of the web 2.0 tools. After a sample application is made in the activity and the student is shown how it should be done, the student is asked to place the objects in the box with similar geometric shapes. The student cannot correctly express which geometric shapes the given objects resemble. With the hints and support provided, the student completed the activity in a challenging and long time. It is shown in Figure 5 and Figure 6 with their connections.

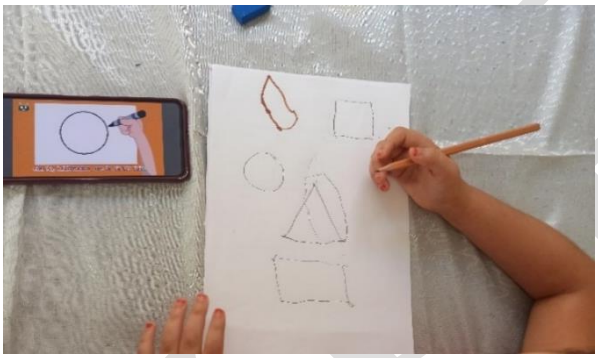

Figure 5. Geometric Figure Drawing Activity
(https://youtu.be/kZvsvVntB1c?si=ertWyHXRRM-JYgn)

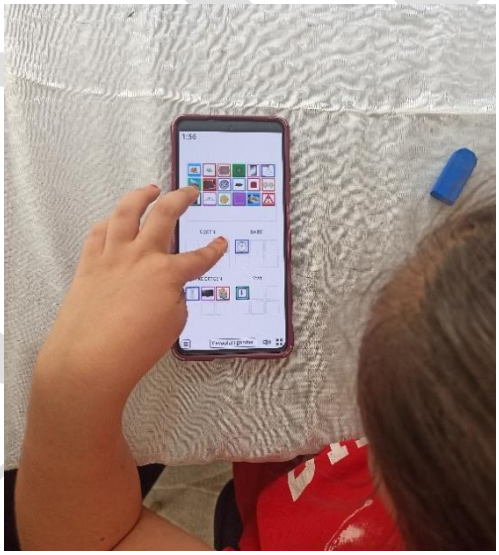

Figure 6. Word wall game (https://wordwall.net/tr/resource/27325603)

Then the 'Shape Colouring' game was played using the Matific application, one of the Web 2.0 tools. (The link to the game is given below). It was observed that the student had great difficulty in finding the geometric shapes required in the visual activity, his attention was constantly distracted and he was very bored. It was observed that the student could not discriminate the geometric shapes in the visual field. It was observed that the student could not do the activity, butthe student was helped to do it. The student was given a worksheet with a robot visual as a final activity. The student was asked to find and mark the geometric shapes in the robot visual from the geometric shapes below. It was observed that the student successfully completed the activity following the hints and feedback given. It was observed

that the student had great difficulty recognising and distinguishing the geometric shapes during the activity and was frequently distracted. This is illustrated in Figure 7 and Figure 8.

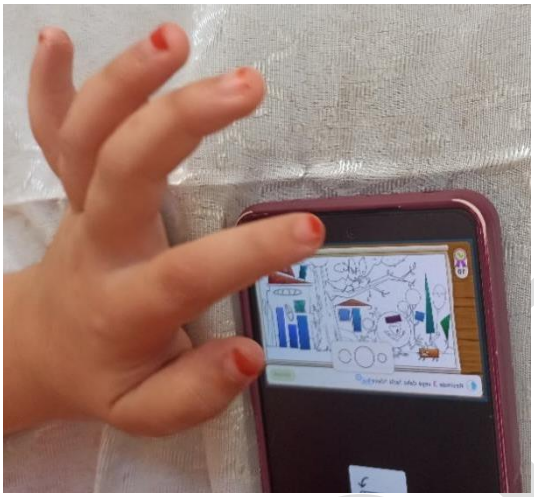

Figure 7. "Shape Colouring" game from Matific Application (https://www.matific.com/tr/tr/home/maths/episode/colouring-shapes/?curriculum=matematik-dersi-%C3%B6%C4%9Fretim-programi-2018&grade=grade-2)

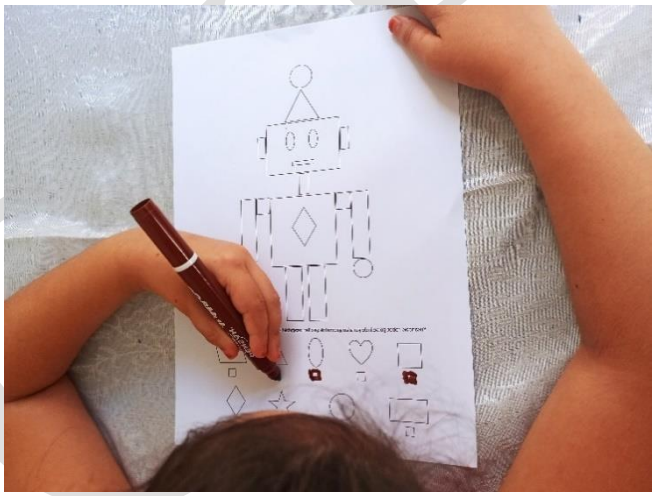

Figure 8. Worksheet

Week 3: The first lesson started with an activity aimed at improving the student's ability to memorise geometric shapes to motivate the student. The student was shown triangle, square, rectangle, circle, star, heart, pentagon, hexagon and octagon shapes glued to cardboard cups for 15 seconds and asked to match the card drawn from the side with the same shape on the cardboard. The pupil, who said he liked the activity, had no difficulty and easily found the matches by distinguishing the properties of the shapes.

In the second lesson, the 'Geometry Strip' activity was carried out with the student to visualise geometric shapes in the mind and combine the mental image with the external image. The student was asked to create geometric shapes such as triangles, squares, rectangles, rhombus, pentagons and hexagons using a Geometry Strip. The pupil, who stated that he liked making shapes with the Geometry Strip very much, made the geometric shapes correctly. This is shown in Figure 9, Figure 10 and Figure 11.

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Figure 9. Cardboard Cup Activity

Figure 10. Geometry Strip Activity-A

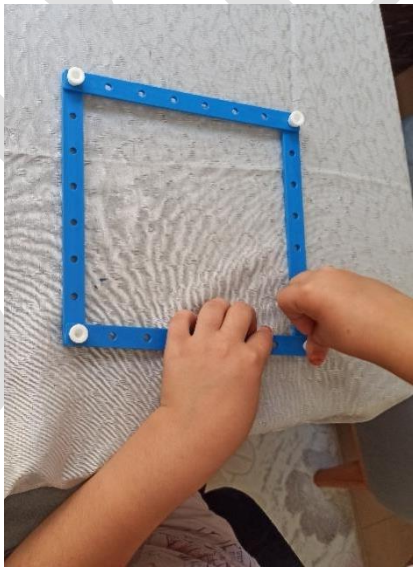

Figure 11. Geometry Strip Activity-B

In the continuation of the second lesson, the second level of the 'Geo-Memory' game, a software developed by Olkun et al. to develop geometric memory, was played (the link to the game is given below). The game was used to improve students' shape perception and visual memory. In this single-player game, the student is tasked with flipping two cards in succession and matching identical shapes by recalling the images on the cards.Ayşe tried to reach the maximum number of card matches using her memory. The student completed the 2nd level of the game in 149 seconds. It was observed that the student, who said that she liked the game and had fun playing it, had difficulties in keeping the shapes in her memory during the game, but she completed the game despite the difficulties. This is shown in Figure 12.

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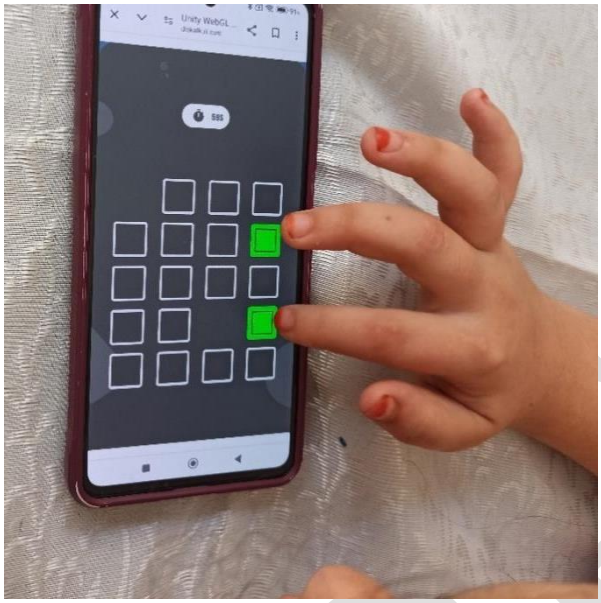

Figure 12. "Geo-Memory" Software (https://diskalkuli.com/geobellek//)

Week 4: Tangram activities were conducted to help students discover the properties of shapes through touch, create new shapes by combining shapes, and develop visual memory. Tangram activities allow students to compare and discuss the properties of geometric shapes such as size, similarity and difference (Hacıömeroğlu & Apaydın, 2009). The students were asked to create pictures of a house, a cat and a bird using the shapes on the tangram. The student who expressed that he liked the activity had difficulty distinguishing the shapes and saying their names, but with the help and hints given, he created the shapes of a house, cat and bird. Figures 13, 14 and 15 show the shapes created.

Figure 13. Tangram Activity-A

Figure 14. Tangram Activity-B

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Figure 15. Tangram Activity-C

In the second lesson an activity was carried out for the student to draw and recognise geometric shapes in a virtual environment (the link to the activity is given in Figure 16 along with the visual). The student, whose fine motor skills were very weak, struggled to draw the shapes in the virtual environment. The student was helped to create shapes such as squares, rectangles and triangles by holding the student's hand.

In the second lesson, the Geo-Bingo game (https://youtu.be/20Z9C3siv3Q?si=dQEyeaUaFuio_RCB) designed by Olkun and shown in the video was played to recognise geometric shapes, distinguish them from others and improve visual memory. Students are given a long strip of geometric shapes on a stick. The students are asked to place the geometric shapes on this long strip where the geometric shapes are side by side. The students are expected to place the shapes on the card they chose on the strip's geometric shape. It was observed that the students found it easier to match the shapes according to the number of sides and corners. The pupils placed the visually reversed shapes on the correct shape by turning the card in their hands. The pupil who enjoyed the activity was able to match the shapes correctly but was confused the names of the shapes. Figures 16 and 17 show the visuals of the activities.

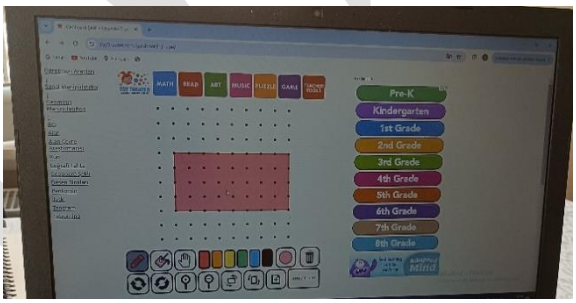

Figure 16. Geoboard (https://toytheater.com/geoboard-shape/)

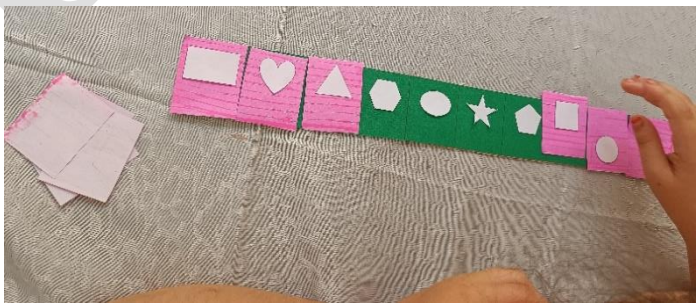

Figure 17. Geo Bingo game

Week 5: The last week started with the colouring the shapes activity to get the student's attention. In the coloring activity, the student was instructed to color the geometric shapes in the picture using the

colors provided. The aim of this activity was to help the student recognize the shapes, understand their properties, and differentiate them from other shapes. During the activity, it was observed that Ayşe faced additional challenges due to her difficulty in identifying the names of the colors. The pupil recognised the shapes but could not say their names. In addition, she could not see that the large or small form of the shapes was the same shape and she usually carried the colour out of the shapes. She is shown in Figure 18.

Figure 18. Drawing Activity

The second lesson started with the activity in the video 'We learn geometric shapes and their properties with storage box, van Hiele 1 to 2' (https://youtu.be/WJ51itqsuJ0?si=Q3oxRoi9IUCBQob8) shown by Olkun on the YouTube channel. Some different geometric shapes are thrown into the storage box and the geometric shape that is the mate of one of the geometric shapes thrown into the box is shown to the student on the box. The pupil is asked to find the shape shown by touching it without looking at the shapes in the box. The student, who enjoyed the activity, found the shapes correctly by touching them. In this activity, the pupil distinguished the shape shown from the other shapes and discovered the properties of the shapes by touching them. This is shown in Figure 19.

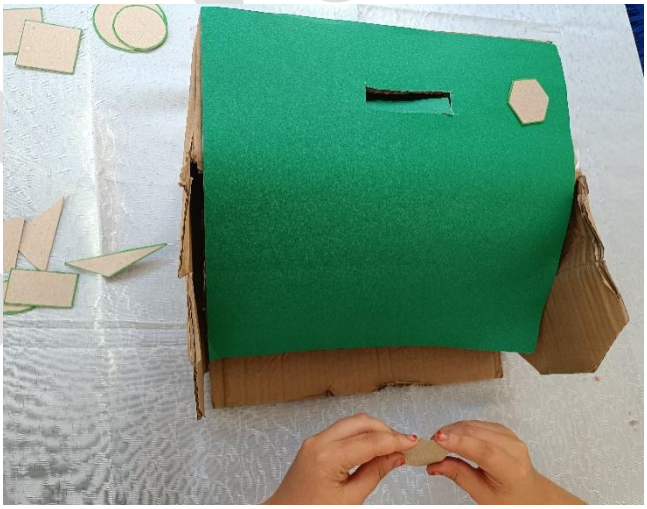

Figure 19. Memory Box Activity

In the second lesson, the 3rd level of the 'Geo-Memory' game was played, a software developed by Olkun et al. to improve geometric memory (the link to the game is given below). The objective of the Geo-Memory game was to help the student develop a mental representation of geometric shapes, recall those shapes, and identify their matching pairs.The student is asked to open two cards and match the

same shapes by keeping the shapes on the card in mind. The student completed the 3rd level of the game in 501 seconds by matching all the shapes. The student who liked the game could not remember most of the shapes during the game and played randomly. This is shown in Figure 20.

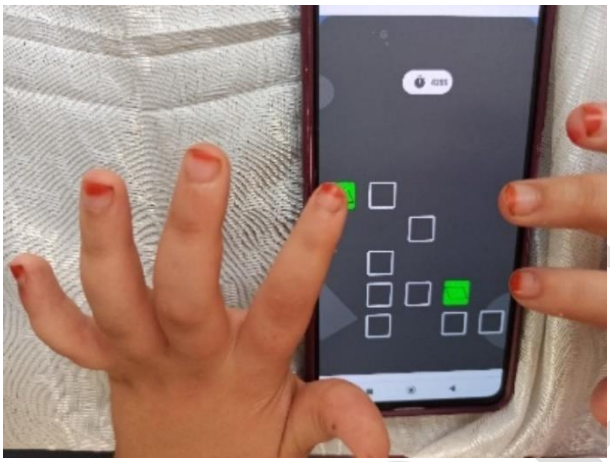

Figure 20. "Geo-Memory" Software (https://diskalkuli.com/geobellek)

The action plan developed in this study aimed at improving the geometric memory of a second-grade student with learning difficulties in mathematics. The implementation of this plan spanned five weeks and was designed to engage the student through activities that were both appealing and participatory. In crafting the activities, careful consideration was given to the developmental and learning characteristics of the student, including their level of readiness and learning speed. This tailored approach is supported by research indicating that personalized learning experiences can significantly enhance educational outcomes for students with learning difficulties (Dewi, 2023).

To effectively enhance geometric memory, the teaching process integrated a variety of instructional strategies and materials. These included storytelling, which has been shown to facilitate cognitive engagement and retention of mathematical concepts by providing relatable contexts for students (Fatemi et al., 2012). Additionally, the use of Web 2.0 games was incorporated, which can promote interactive learning and foster a collaborative environment among peers (Alkhateeb & Al-Duwairi, 2019). The inclusion of concrete materials, such as geometry strips and tangrams, aligns with the findings of Gurung and Chaudhary, who emphasize the effectiveness of manipulative materials in improving geometry learning achievements (Gurung & Chaudhary, 2022). Such materials allow students to visualize and physically manipulate geometric shapes, thereby enhancing their understanding and memory of these concepts.

Moreover, the action plan utilized the 'Geo-Memory' software developed by Olkun et al., which is specifically designed to support the learning of geometric concepts through interactive and engaging activities. The effectiveness of dynamic geometry software in improving mathematical achievement has been documented in systematic reviews, indicating that such tools can significantly enhance students' understanding of geometry (Chan & Leung, 2014). Worksheets were also employed as a supplementary resource, providing structured practice that reinforces the concepts learned through more interactive methods.

In summary, the action plan's multifaceted approach, which included storytelling, interactive games, concrete materials, specialized software, and worksheets, was strategically designed to cater to the unique needs of the student. This comprehensive strategy not only aimed to improve geometric memory but also sought to create a positive and engaging learning environment. The findings from this study contribute to the growing body of literature advocating for personalized and interactive instructional methods in mathematics education for students with learning difficulties (Dewi, 2023; Fatemi et al., 2012).

Different activities in the teaching process attracted the students' attention and supported the development of geometric memory. In general, it was observed that the students liked the activities used, but they liked the activities using concrete materials more by using their fine motor skills by touching them. The use of concrete materials to represent abstract mathematical concepts facilitates students' understanding and enhances the retention of these concepts in their memory. (Pişkintunç, Durmuş, & Akkaya, 2014). In addition, the students liked the memory game "Geo-Memory", the software developed by Olkun et al. in the action plan process as level 1, level 2 and level 3. While finding the matching shapes, she had the opportunity to compare the shapes in terms of appearance, and she did not get bored with the game and continued until she completed the game. Saygı and Alkaş Ulusoy (2019) summarised the thoughts of pre-service teachers on the contribution of memory games to mathematics education with themes such as ensuring the development of mathematical skills, learning mathematical concepts in a meaningful way, contributing to thinking and memorising, developing time control and fast thinking. This supports the results of this study.

DISCUSSION, CONCLUSION, and SUGGESTIONS

The findings of the study indicate that the action plan designed specifically for the participant was effective in enhancing the geometric memory of a second-grade student with mathematics learning difficulties.As a result of the implementation of the action plan, it was concluded that the participant's geometric memory improved and that he was generally able to match the geometric shapes during the teaching process, but confused their names and characteristics. The participant student generally had difficulty remembering the names of the geometric shapes during the process and the student was constantly reminded of the names of the geometric shapes. Similarly, in the study of Fırat and Erdem (2020), it was found that students who had difficulties learning mathematics in the first and fourth grades had difficulties learning the concept of geometric shapes. The student success rate, which was 5% in the pre-test before the application, increased to 40% in the post-test after the application. When the pre-test and post-test were evaluated, the student made fewer mistakes after the application, had less difficulty recognising geometric shapes compared to the beginning of the process, formed a mental image of geometric shapes and improved his ability to retain images in his memory.

At the beginning of the process, the student who did not know the names of the geometric shapes at all and had no shape memory was able to say the names of the shapes with the support given at the end of the process and shape perception began to form. The result of the study shows that geometric memory skills can be developed according to the speed of learning with an individualised education plan and enriched learning environments within the action plan prepared according to the developmental and learning characteristics of the student. Similarly, Koç and Korkmaz (2019) concluded in their action research that students with learning disabilities can reach the level of students with normal developmental levels with sufficient time, individualised education and enriched environments according to their developmental characteristics. The results of the study support the findings of this study.

Research has shown that individualized education plans (IEPs) and enriched learning environments can have a significant impact on the learning outcomes of these students (Galitskaya & Drigas, 2023). Recent studies have identified several effective interventions for teaching geometry to students with learning disabilities. For example, Liu et al. (2019) conducted a comprehensive synthesis of geometry interventions and found that instructional strategies such as visual aids, manipulatives, and technology-assisted learning tools significantly improved the geometric understanding of students with learning disabilities. Similarly, Galitskaya and Drigas (2023) highlighted the role of mobile and ICT-based interventions in facilitating geometry learning, suggesting that technology can help bridge gaps in understanding for students with learning disabilities. Kusumah et al. (2020) showed that the use of GeoGebra, a dynamic mathematics software, in learning three-dimensional geometry improved students' mathematical communication skills and that interactive tools can promote a deeper understanding of geometric concepts. In addition, Shahbari and Daher (2020) investigated the integration of ethnomathematics in the teaching of congruent triangles, which proved to be effective in

helping students with mathematical difficulties understand basic geometric concepts. Despite promising interventions, students with learning disabilities often face significant difficulties in geometry. Factors such as working memory limitations and misconceptions about geometric concepts can hinder their learning (Abdurrahman & Nofriyandi, 2022).

When the relevant literature was examined, no studies were found on "geometric memory". Şimşek and Arslan (2022) also reviewed the studies conducted in Turkey on mathematics learning difficulties and concluded that topics related to learning numbers and operations were preferred in the studies. Similarly, Saygı (2023) found that in studies focusing on mathematical topics related to dyscalculia, numbers were mostly studied and stated that due to the lack of literature, researchers need to choose topics from learning areas such as geometry, etc. in their studies in this area. As a result of the findings from the studies, it is believed that conducting studies on mathematics learning difficulties in different learning areas, such as 'geometry' will contribute to the field. Geometric memory refers to the ability to recognize, remember, and use geometric shapes and their properties. This skill is essential for various mathematical tasks such as spatial reasoning, problem solving, and understanding geometric relationships. Given the fundamental role of geometry in mathematics, the lack of research in this area may hinder the development of effective teaching strategies for students with learning disabilities.

The existing literature reveals a significant gap in research that specifically focuses on geometric memory and its development in students with learning disabilities. As Kpotosu (Kpotosu, 2024) notes, there is an urgent need for studies that examine geometric concepts beyond numerical operations. In summary, although effective interventions for teaching geometry to students with learning disabilities exist, there are significant gaps in the literature. This synthesis highlights the importance of special education strategies and the need for more research on geometric memory and implications for instructional practice. By addressing these gaps, educators can better support students with learning disabilities in developing basic geometric skills.

In line with the results of this study, it is recommended that action research on the development of geometric memory of students with learning difficulties in mathematics should be increased and conducted over a longer period.

- To teach geometry to students diagnosed with dyscalculia, teaching geometry concepts using visual materials (pictures, graphs, models) and sensory experiences (making models, using manipulative materials) can help students better understand the concepts.
- Simple and step-by-step teaching, breaking the concepts into simple parts and teaching them step-by-step can reduce students' difficulties.

Repetition and recall through diverse activities can support students in reinforcing and retaining concepts more effectively. Customized learning plans tailored to the student's specific needs can significantly enhance the effectiveness of their learning process.

Ethics and Conflict of Interest

Permission number E-81100045-020-357580 (October 20, 2024) was obtained from the Kahramanmaraş Sütçü İmam University Ethics Committee for the study (22.10.2024-357580). This study was presented as an oral presentation at the 2nd International Mathematics Learning Disability Congress hosted by Ankara University on September 19-21, 2024. The authors followed the research ethics guidelines. There is no potential conflict of interest between the authors.

Author Contributions

All authors' contributions to the article are equal in every aspect. All authors have read and agreed to the published version of this work.

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PROBLEMS OF CURRICULUM RELEVANCE IN ENHANCING CHILDREN'S COGNITIVE DEVELOPMENT IN ECE IN ETHIOPIA

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Abstract

The study aimed at assessing Problems of Curriculum Relevance in Enhancing Children's Cognitive Development in Early Childhood Education (ECE) in Ethiopia. An explanatory sequential research design was employed through a multistage random sampling technique to collect primary data from the participants (N_i=260) through questionnaires and observations. Descriptive and inferential statistics were used to analyze the collected data through questionnaires; thematic analysis was used for open-ended questionnaires and observation checklists. The first finding was that about 87% of the preprimary school teachers were not trained in ECE Curriculum. Secondly, the curricula under usage were poorly helped children daily to develop measuring units of the physical properties (length, weight, temperature, money, collecting & organizing information, and solving quantitative problems). Thirdly, teaching methodologies (discussion, categorization, explanation, and brainstorming) used by teachers contributed 79.21% to ECE Curriculum. Finally, lack of appropriate training, irrelevant curriculum resources, and teaching methods were the major identified problems in the ECE curriculum. In conclusion, the reasons for poor cognitive development identified in this study in Ethiopia's ECE Curriculum were poor teacher training and poor professional development, inconsistent and fragmented curriculum implementation, limited resources and learning material, inadequate implementation of play-based learning, cultural and language barriers, socioeconomic factors, and family support.

Keywords: Cognitive development, early childhood education, psychology.

INTRODUCTION

Laying its foundation on Church and Quran education, modern ECE was started at the end of the 19th century. Since then, several governmental and non-governmental organizations have done much work. Among the efforts, the national ECE policy framework, which was formulated in 2010, and the establishment of the Centre for ECE, in 2014, at Addis Ababa University can be mentioned as significant milestones in changing the landscape of ECE in Ethiopia. Because of the lack of coordinated efforts among stakeholders, ECE resources are fragmented and efforts are duplicated. To solve these problems, the Centre for ECE, Addis Ababa University, National Education Assessment and Examination Agency (NEAEA), USAID Ethiopia, Ethiopian School Readiness Initiative (ESRI), and Whiz Kids Workshop have initiated the establishment of this collaborative ECE knowledge Hub in 2020 intending to gather ECE-related resources from various organizations and make them available to researchers, educators, academics, students, policymakers, and anyone interested in ECE (Tirussew, Teka, Belay, Belay, & Demeke, 2009; Belay & Belay, 2016; Belay, 2018; MoE, 2020). Until 2020, ECE had no vision, mission, objectives, programs, or program coordinators as a nation, regionally, and nationally in Ethiopia.

Although early childhood education (ECE) has a lengthy history, major developments occurred about 1990 that led to ECE's international recognition as a separate area of study. On 20 November 1989, the UN General Assembly formally adopted the Convention on the Rights of the Child (CRC) while in fact, signing commenced on 26 January 1990, with 61 countries signing the document that very day. By September 1990, 20 more countries ratified the Convention, bringing it into international law. The Convention was "ratified more quickly and by more countries than any previous human rights

instrument" (UNICEF, 2001: P.1). In March 1990, the World Conference on Education for All (EFA) was held in Thailand, and the importance of ECE was emphasized as a crucial part of basic education in that Conference. Article 5 of the document provided ECE with a place at the table which stated that learning begins at birth. This calls for ECE initial education (UNESCO, 1990). In 1994, the Carnegie Institute's Task Force on Meeting the Need of Young Children paved another key front in an effort to better understand the needs and challenges of early development. Starting its report with "Meeting the Needs of Our Youngest Children", the Task Force's central focus of discussion was on the importance of the early years- as a key period for brain development. The World Bank (1994) took this report quickly and started to advocate the importance of healthy child development as a key to broader social and economic development.

In April 2000, "Education For All" follow-up conferences took place in Dakar, Senegal, and Early Childhood Care and Education were further enhanced in this Conference, as the delegates were committed to several goals, the first of which was "expanding and improving early childhood care and education, especially for the most vulnerable and disadvantaged children" (UNESCO, 2006: p.45). This being the case, the 2007 EFA Global Monitoring Report on Children Education and Care reported; however, that millions of children in Sub-Sahara Africa still lack access to ECE. Particularly, education and care for children under the age of 3 years are left to parents, private bodies, and non-governmental organizations. Participation in pre-primary education in this region remains low compared to the population of children it was supposed to have served. Some of the major reasons mentioned for lowering participation include poverty and cost. Due to these and other related problems, Ethiopia, Lesotho, Namibia, Rwanda, and Uganda, for example, are reported to have almost their pre-primary schools owned by the private sector. The role of the public sector is minimal or non-existent. Pre-primary education in Sub-Saharan Africa is actually still in poor condition, and the region's development pace is modest.. In addition to the small coverage, the existing services do suffer from poor quality, resulting in poor preparation of teachers and poor provision of facilities (UNESCO, 2006; Belay & Belay, 2016; Belay, 2018).

In Ethiopia, the gross enrollment rate of pre-primary education is only 2.7%. Even this small percentage accounts only for urban areas, and the largest children population in the rural areas do not have access to pre-primary education. Furthermore, the existing urban-based early childhood education establishments are also not open to children with disability. More importantly, information on early childhood care and education activities in this country is poorly documented, and whatever is available is sketchy (Tirusew *et al*, 2009). Children aged 0 to 6 years constitute a large section of the Ethiopian population according to the national census conducted by the Central Statistics Agency [CSA] (CSA, 2009). Over 16% percent of the then, 74 million populations, that is, about 12 million were under this age category, and above 10% were in the ages 3 to 6 years. However, ECE is one of the most neglected areas in Ethiopia. According to the Annual Educational Statistical Abstract of the Ministry of Education [MoE] (MoE, 2010; Belay and Belay, 2016; Belay, 2018), the gross enrollment rate of Kindergarten (KG, ages 3 to 6) was only 6.2% and mainly concentrated in urban areas. Besides, the need for children's development has been duly recognized in the country's education, health, and social welfare policies. The Ethiopian health policy has also proclaimed the need to facilitate children's and family health care to combat childhood diseases. Parallel to this, the Ethiopian Education and Training Policy [ETP] (1994) highlights the need for children's overall development during the preschool years. Likewise, the nation's social welfare policy (1996) outlines the country's commitment to fulfilling various social services targeting the care and security of children was under great question so far.

In tune with the international commitment, the Ethiopian Government has embarked on a continuous process of reengineering the issue in its education and training policy and the past four Education Sectors Development Plans (ESDPs). The first five-year plan of the ESDP-I was launched within the framework of the (ETP, 1994) and the following three-year ESDP-II did not consider ECE as necessary for the nation's children. Not until the third five-year ESDP-III, was ECE given the needed policy support by the government to create a conducive policy environment and support mechanisms

for the participation of various stakeholders which was not implemented as immediately as possible. ECE received much focus in ESDP-IV (2010 to 2014/15), which provided a useful analysis of lessons learned from ESDP-III (2005/06 to 2010/11). Tangible program outcomes and targets were set more than ever before the preceding ESDPs through different approaches to meet the objective of ECE as stipulated in (EFA, 2000) Dakar documents. It has placed mainly two key outcome targets: to increase the Gross Enrollment Rate (GER) from 6.9% in 2009/10 to 20% in 2014/15 and to establish a pre-primary class in all rural and urban primary school compounds (MoE, 2010; Belay & Belay, 2016; Belay, 2018). However, despite the presence of these statements in different sectors of governmental policy and the comprehensive inclusion of ECE in the ESDP-IV, ECE in Ethiopia was one of the most neglected areas.

Taking this into consideration, in 2010, as a result of a joint effort by the United Nations, the International Child Education Fund (UNICEF), and the concerned ministries in the area, a new ECE policy framework was developed that is relatively comprehensive and implemented since the past twelve years. It is the first of its kind in the country, and there is hope that it will bring a positive change. The policy focuses on enhancing the quality, accessibility, and equitable distribution of services for children through more efficient partnerships and capacity-building programs through the following five basic pillars: 1) parental education, 2) health and early stimulation program (birth to three years), 3) pre-school community-based kindergarten (4 to 6 years), and 5) community-based non-formal school readiness programs (MoE, 2010). Thus, it is now apparent that the policy frameworks for ECE and success in the education system seem to be in place but as to the knowledge of the researcher, the program was not implemented since 2022/23. Today, virtually every nation provides some early childhood education, sometimes financed by the government, sometimes privately (Pianta, Robert, Barnett, Steven, Margaret, & Thornburg, 2011). In some countries, most 3- to 6-year-olds are in school not only because of changing family and economic patterns but also because research has verified that young children can accomplish a great deal of cognitive advancement and language learning at this age.

One robust research conclusion about children's learning is that the quality of the learning context matters. If home education is poor, a good preschool program aids health, cognition, and social skills (Hindman, Annemarie, Skibbe, Miller, & Zimmerman, 2010). However, if a family provides extensive learning opportunities and encouragement, the quality of the preschool is less crucial, but for sure this cannot be true in Ethiopia where more than 80% of the family is illiterate. The young children should be at such a home rather than in a stressful and overcrowded preschool. It is difficult to judge the quality of homes and schools in Ethiopia because of the stunning variability and fragmentation of public and private schools (Pianta et al., 2009) and the changing configuration of home care. It is a mistake to conclude that care by the mother is better than care by another relative or non-relative or vice versa. Mother care varies: some mothers are fabulous, others disastrous. Many programs are called developmental or child-centered because they stress each child's development and growth. Teachers in such programs believe that children need to follow their interests rather than adult directions. For example, they agree that children should be allowed to select many of their activities from a variety of learning areas that the teacher has prepared (Hindman *et al.,* 2010; Blara-Cinisomo *et al.,* 2011). According to UNICEF (2020), Ethiopia has made remarkable progress towards pre-primary education with enrolment rates rising from just 9 percent in 2010 to a current 44.2 percent. However, with the rapid expansion of access comes the concern of corresponding quality. Many young children are now attending preschool, which is a great achievement, but they are in classes that are poorly equipped and where teachers are inadequately trained. At the national level, there are challenges in providing adequate resources for quality teaching and materials and a lack of satisfactory quality standards for pre-primary facilities. At the local level, ECE is a new concept for many rural families and the poor quality of classes can deter parents from supporting their children's enrolment (UNESCO, 2022a, 2022b).

In Ethiopia, the ECE curriculum has undergone several revisions over the years, especially since the implementation of the O-class (or Pre-Kindergarten) program in 2020 (MoE, 2020). Despite the positive strides made, there are still several challenges associated with the O-class in the ECE curriculum, particularly as the country focuses on improving access and quality. A significant challenge in the O-class curriculum is the lack of adequately trained teachers. Early childhood educators often do not have sufficient training in child development, play-based learning, and pedagogical skills specific to young learners. This impacts the quality of education provided in O-class settings. Many O-class centers struggle with a lack of proper learning materials, including toys, books, and teaching aids that are critical for the development of young children. This hampers the effectiveness of the curriculum, especially in fostering cognitive, social, and emotional development. Moreover, many schools face challenges in providing sufficient classroom space, leading to overcrowding. Large class sizes can reduce individual attention and hinder the learning process for young children, who require a nurturing and interactive environment (Belay, 2018). Ethiopia is a diverse country with over 80 ethnic groups and languages. This cultural and linguistic diversity can pose challenges in designing a curriculum that is inclusive and accessible for all children. Teachers may not always be proficient in the languages spoken by children, affecting communication and learning. In some areas, there is a lack of awareness and engagement from parents regarding the importance of early childhood education. This can lead to insufficient support for children's learning outside the classroom and a lack of cooperation with teachers (UNESCO, 2022a, 2022b).

The funding allocated to ECE remains limited. This financial constraint affects the construction and maintenance of ECE centers, as well as the ability to provide ongoing professional development for teachers (MoE, 2021). While the curriculum has been revised to be more child-centered, there are challenges in its effective implementation, especially in rural areas. Teachers may struggle to adapt the curriculum to local contexts or may not fully understand the innovative approaches outlined in the national policy. There is a lack of effective monitoring and evaluation mechanisms to assess the impact of the O-class curriculum on child development (MoE, 2021). Without robust systems to track progress, it is difficult to make adjustments or improvements based on evidence. Overall, while there have been advancements in ECE in Ethiopia, overcoming these challenges is crucial to ensuring that the O-class and the broader ECE system deliver quality education for all children, preparing them for future learning experiences. This program again failed to exist as a program because of these challenges as a result the government has sought other alternatives since 2023.

The physical space and the materials (such as dress-up clothing, art supplies, puzzles, blocks, and other toys) are arranged to allow self-paced exploration. Most child-centered programs encourage artistic expression. Hindman *et al. (*2010); Pianta *et al. (*2009); Blara-Cinisomo *et al. (*2011); UNESCO (2022a) argue that young children are all poets in that they are gifted to see the world more imaginatively than older people do. According to advocates of child-centered programs, this peak of creative vision should be encouraged; children are given many opportunities to tell stories, draw pictures, dance, and make music for their delight. That does not mean that academics are ignored. Advocates of math learning, for instance, believe that children have a natural interest in numbers and that child-centered schools can guide those interests as children grow (Stipek, 2013). Child-centered programs are often influenced by Piaget who emphasized that each child will discover new ideas, and by Vygotsky who thought that children learn from other children, with adult guidance (Bodrova & Leong, 2005). Trained teachers are crucial; a child-centered program requires appropriate activities for each child and teachers who guide and scaffold so that each child advances (Dominguez et al., 2010). Consistent with these ideas, Contemporary Maria Montessori schools still emphasize individual pride and achievement, presenting many literacy-related tasks (e.g., outlining letters and looking at books) to young children (Lillard, 2005). Specific materials differ from those that Montessori developed, but the underlying philosophy is the same. Children seek out learning tasks; they do not sit quietly in groups while a teacher instructs them. That makes Montessori programs child-centered (Lillard, 2013; UNESCO, 2022b). It was identified that the ECE curriculum in 2020 faced several challenges and issues that affected its implementation and effectiveness. These

challenges can be grouped into various categories, including curriculum content, pedagogical approaches, policy issues, and the broader socio-economic and health context (UNESCO, 2022a).

In many regions of Ethiopia, the ECE curriculum was fragmented, with varying standards and frameworks that created inconsistencies in educational quality across different regions and institutions. There was a need for more standardized and coherent curriculum structures. Some curricula were outdated and did not reflect modern educational theories or the evolving needs of children, particularly in areas like digital literacy, inclusivity, and social-emotional learning (UNICEF, 2020; UNESCO, 2022b). In some settings, there was a shift towards early academic achievement (such as reading and writing) at the expense of play-based learning, which is essential in ECE. This caused concerns that children were being pressured to perform academically before they were ready. Moreover, many early childhood educators lacked adequate training in implementing the curriculum effectively, particularly when it came to new approaches like play-based learning, inquiry-based learning, and socio-emotional development. Insufficient professional development opportunities were a significant barrier. The curriculum sometimes fails to cater to the diverse developmental needs of young children, especially those with disabilities or from marginalized communities. This lack of individualization made it difficult to meet the needs of all children. It was observed that the ECE curriculum in Ethiopia often lacked clear, developmentally appropriate methods for assessing young children's learning and growth, making it harder to tailor teaching strategies to individual needs (UNESCO, 2022a).

Furthermore, a previous study by the Mesfin, Dihel, and Zerihun (2018); Diale and Sewagegn (2021) identified that there were significant disparities in the availability of resources, quality facilities, and access to trained educators. Children in rural, low-income, and marginalized communities often had limited access to quality ECE, which was exacerbated by gaps in curriculum delivery. The rise of digital education during the COVID-19 pandemic highlighted a digital divide, where many children, particularly those from lower socio-economic backgrounds, lacked access to the technology necessary for remote learning. In many countries, the ECE curriculum did not adequately reflect the diverse cultural backgrounds of children whereas the Ethiopians have not yet been different from these countries (Mesfin, Dihel, & Zerihun, 2018). There was a growing need for a curriculum that was more inclusive and responsive to the varied cultures, languages, and family structures of children, which was observed as the significant contributing factor to low equity, access, and poor quality education in Ethiopia. The curriculum often struggled to address the language needs of children from non-dominant linguistic backgrounds, particularly in multilingual societies, which created challenges in language acquisition and communication development (UNICEF, 2020; Diale & Sewagegn, 2021).

Doing business as usual is not working at the 21st century! There must be a definite shift in thinking about how, when, and where resources for ECE should be invested. Until African leaders begin to step back, reflect, and make conscious policy decisions to invest in human resources to build human capabilities through specific targeting of 3-6-year-olds and their mothers, the vision of a developed and prosperous Africa will continue to remain a vision. Without transforming human resources into human capital, African countries in general and Ethiopians in particular will continue to struggle to provide the necessities for their citizens (UNESCO, 1990, 2010, 2022b). The different regions of Ethiopia have adopted the ESDPs prepared at the federal government level. Among these regions, Oromia is the one that is implementing the program to address the issue of preschool education in all zones of the region. The researcher believes that ECE is the cornerstone for the next stage of development (cognitive, psychosocial, physical, moral & personality) and learning. This is only possible where a child-centered curriculum has been in the position, but this is very thin and very shallow in Ethiopia. As an experienced teacher in Ethiopia, the researcher has critically observed that ECE has lacked attention from parents, government, non-government, private, and religious institutions.

In some regions of the country, there was a lack of cohesive national policies supporting ECE leading to difficulties in curriculum implementation. Government priorities often focused more on primary

and secondary education, while ECE was underfunded and overlooked. In this country, ECE continued to be underfunded in many regions, with insufficient resources allocated to ensure high-quality curriculum delivery, teacher training, and infrastructure. While the role of parents is crucial in early childhood education, many ECE programs lack effective strategies to engage parents in the learning process. This created gaps in reinforcing learning outside the classroom. Parents, particularly those who were economically disadvantaged, faced challenges in supporting their children's learning. Currently, the challenges facing ECE curricula are multi-faceted and complex, ranging from pedagogical and equity issues to the direct impact of the system in the country. Addressing these challenges required comprehensive policy changes, increased investment in the sector, and a shift towards more inclusive, flexible, and developmentally appropriate approaches to ECE. Based on these realities, pinpointing the problems of Curriculum Relevance in Enhancing Children's Cognitive in ECE was attempted at Harar, Chiro, and Dire Dawa Towns.

Purpose of the Study

The purpose of this study was to assess the problems of curriculum relevance to enhance children's development at ECE in three towns of Eastern Ethiopia. Specifically, this study was intended to:

- Stipulate the extent to which teachers were qualified to the required professional competence in ECE to deliver quality education.
- Assess the problems of curriculum relevance to children's cognitive development in Harar, Chiro, and Dire Dawa.
- Explain the extent to which curriculum relevance affects children's cognitive development in the study area.
- Compare whether there was statistically a significant mean difference existed among the three centers or not.

Review of Related Literature

This part of the paper mainly dealt with the theoretical framework of reviewing different literature to get pertinent evidence from previously conducted research products. It contains a developmentally appropriate curriculum (cognitive relevance) to ECE in the study area.

Developmentally appropriate curriculum

A developmentally appropriate curriculum in ECE aligns with the developmental stages, needs, and interests of young children, fostering their cognitive, social, emotional, and physical growth. However, creating and implementing such a curriculum presents several challenges that include cultural and socioeconomic differences, limited resources, meeting the needs of children with special needs, pressure to meet academic standards, teacher training and professional development, and assessment and documentation (Belay, 2018; and Belay & Belay, 2016). Assessing young children's development is complex, as standardized testing is often not suitable for capturing the nuances of early learning. Children come from diverse backgrounds, and what is considered developmentally appropriate may vary based on cultural, linguistic, or socioeconomic factors. Documenting progress in a way that supports individual growth can be challenging. Educators may lack training in how to implement a developmentally appropriate curriculum, or they may have competing priorities such as administrative duties or dealing with challenging behaviors. Many early childhood settings face resource limitations, such as insufficient materials, space, or funding, which can make it difficult to create a rich, varied curriculum. In some educational systems, there is increasing pressure to focus on early academic achievement, such as reading and math skills. This can conflict with developmentally appropriate practices that emphasize social-emotional development, motor skills, and creative play (Tirusew *et al.*, 2009). In summary, the challenges of developing a developmentally appropriate curriculum in ECE require thoughtful planning, flexibility, and a deep understanding of each child's needs. Educators must navigate diverse developmental stages, cultural differences, limited resources, and external pressures while ensuring that the curriculum remains engaging, inclusive, and responsive to all learners.

What is appropriate for one child might not be for another. ECE educators must be flexible and observe each child closely, tailoring learning experiences that address individual strengths and challenges. The ECE curriculum should contain goals for each child to achieve in areas of development that are appropriate for their age. This may look like their ability to self-soothe, make friends, or put themselves to sleep. Developmentally appropriate curriculum in ECE emphasizes the "how" of curriculum development as well as the "what and why" to help one create the best programs for young children ages 3 through 6. It's an all-in-one guide that brings together everything pre-service teachers need to implement an integrated, developmental approach to curriculum-based instruction. Sample activities and lesson plans are included for each curriculum domain (Mesfin, Dihel, & Zerihun, 2018). Practical research-based guidelines and a focus on teaching methods give us the tools we need to translate theory into age-appropriate practice that accommodates individual, social, and cultural differences (Gestwicki, 2017; Diale & Sewagegn, 2021). When one speaks about a developmentally appropriate curriculum, one speaks about a curriculum planned to be appropriate for the age span of children within the program. One also needs to be aware that once a teacher begins to work with a group of children and begins to learn more about individual children within the group, the curriculum might change drastically. The curriculum should be driven by the different needs, levels of functioning, and interests of the children in the group. When planning a developmentally appropriate curriculum, all aspects of development (cognitive, linguistic, social, emotional, and physical) need to be taken into consideration. A curriculum that focuses on cognitive development (number concepts, problem-solving strategies, concepts of time, spaces, order, patterns, and categories) at the expense of planning for and nurturing the development of the physical child does not take into consideration to develop the whole child (Tirusew *et al.*, 2009; Gestwicki, 2017; Diale & Sewagegn, 2021).

The developmentally appropriate curriculum focuses on integrating learning rather than departmentalizing learning. Children learn through interaction with children, materials, and adults. In a developmentally appropriate curriculum, children learn through direct experiences not by learning about persons, places, and things from someone always telling them about them. In a developmentally appropriate environment, children learn science, social studies, language arts, and math through reading books and listening to stories, engaging in sensory experiences, participating in cooking experiences, being involved with art activities, taking part in dramatic play, using manipulative, taking field trips, building, creating, and sharing all of these experiences with their peers and the adults in their classrooms (Gestwicki, 2017; Belay & Belay, 2016; Belay, 2018).

Cognitive Development: Thinking and problem-solving skills

The ECE curriculum in cognitive development plays a crucial role in shaping a child's intellectual and academic abilities. However, there are several challenges that educators and curriculum developers face in ensuring that the curriculum is effective in fostering cognitive growth. Children develop cognitive abilities at different rates due to a variety of factors, such as genetics, environment, and early experiences. This means that a one-size-fits-all approach in the curriculum may not meet the needs of all children. Cognitive development in early childhood is heavily influenced by play, which promotes problem-solving, creativity, and critical thinking. However, there can be pressure to incorporate more formal academic content (like literacy and numeracy) early on. Striking the right balance between structured learning and free play can be difficult, as an overly academic focus may stifle creativity and reduce opportunities for hands-on, experiential learning that fosters cognitive growth. In addition, children come from various cultural and socioeconomic backgrounds, which can affect their prior knowledge, language skills, and cognitive readiness for certain aspects of the curriculum. Therefore, the ECE curricula must be adaptable to account for these differences. Children from underprivileged or non-native backgrounds may need additional support in areas such as language development or social-emotional learning, which can be difficult to provide in a diverse classroom (Belay & Belay, 2016; Belay, 2018; MoE, 2020, 2021).

Cognitive development in early childhood means how children think, explore, and figure things out. It is the development of knowledge, skills, problem-solving, and dispositions, which help children think about and understand the world around them. Brain development is part of cognitive development. In

the early childhood years, young children are expanding their knowledge about the world around them. This knowledge comes from observation of events, hands-on experience with concrete experiences, listening to peers and adults, and other encounters with the world. Children need exposure to concepts in math and science, social studies, and the arts to broaden their horizons. They learn from looking at and listening to books being read to them and stories being told to them. Goldhaber (1994) challenges the early childhood educator to be serious about play. She points out that there is a resurgence of interest in science education that should allow educators to use the vocabulary of developmentally appropriate practice to explain the open-ended, cognitively challenging learning experiences that characterize their play-based programs. Goldhaber suggests that by calling it science teachers might be able to let children play (Diale & Sewagegn, 2021).

An early focus on cognitive skills is crucial because some young children may have developmental delays or challenges that can be identified and addressed if caught early. Because of this, parents, teachers, and caretakers should keenly observe each child's development and address any issues as early as possible. This can prevent the child from struggling later on in life. In a fast-developing, competitive world, cognitive skill development from an early age is very crucial for a child. Young children grow physically during their early childhood, and they also grow mentally by observing and interacting with the world around them (Gestwicki, 2017). Parents need to foster cognitive development in their child as soon as the child is born because it is the foundation for the child's success later on in life. For example, research shows that children who can distinguish sounds at six months of age are better at acquiring the skills for learning to read at four and five years of age. Another way that one can foster his/her child's cognitive development is to provide them with choices and prompt them to make thoughtful decisions. One should also allow his / her child to explore different ways of solving problems (Diale & Sewagegn, 2021). While one may want to provide some gentle guidance and encouragement, allow one's child some time to figure out things, like a new puzzle. This may require some patience on one's part, but it will ultimately help them to learn.

Research has shown that there is a strong link between the cognitive development a child undergoes in early childhood and the level of success they experience later in life (Kostelnik et al., 2019). The brain is the most incredible network of information processing, and both interpretation and thinking skills improve as children learn. Parents, teachers, and caretakers should help children develop their cognitive skills at an early age so that they can grow up with confidence and the skills to succeed. If a child does seem to have a learning disability, it is important to seek help from a qualified professional. Today, there are various methods to assess and train children who have learning disabilities. Not all children are born with the same cognitive abilities, but they all have the potential to develop into able and efficient individuals. With the help of caring, nurturing parents and teachers, children can utilize their potential to a maximum extent and grow up to be well-rounded and successful individuals (Kostelnik et al., 2019; Diale & Sewagegn, 2021; Belay & Belay, 2016; Belay, 2018).

Teaching Methodologies of ECE Curricula

The ECE curriculum plays a critical role in shaping children's cognitive, social, and emotional development. However, challenges such as limited resources, large class sizes, and varying socio-economic backgrounds must be addressed. In this context, teaching methodologies that are adaptable, inclusive, and resource-efficient are essential. Some appropriate teaching methodologies for ECE in include play-based learning, a child-centered approach, storytelling and oral traditions, community-based learning, inquiry-based learning, collaborative learning (peer learning), multisensory learning, and scaffolded learning (Belay and Belay, 2018). Play-based learning focuses on the idea that children learn best through play, exploration, and hands-on experiences. Activities are designed to be engaging, fun, and meaningful while promoting cognitive, social, emotional, and physical development. Resources may be scarce, but play-based learning requires minimal material resources, and it fosters creativity, problem-solving, and language development. It also helps children develop social skills, emotional resilience, and critical thinking (Belay, 2016). For example, pretend play (e.g., playing house, running a shop) to develop social roles and communication whereas problem-solving games using everyday materials can foster children in learning and cultivation.

The child-centered approach focuses on the needs, interests, and developmental stages of the children. It encourages active participation and emphasizes learning through discovery and exploration. This approach respects the individual pace of development, allowing children from diverse backgrounds to learn at their own level. It also supports self-esteem and fosters a love for learning. For instance, teachers facilitate learning through guided discovery, asking open-ended questions, and allowing children to explore topics that interest them. Activities that encourage independent thinking, such as group projects or self-directed tasks can further expand children's learning (Chan & Chan, 2003). On the other hand, storytelling is an effective way of transmitting knowledge, values, and cultural traditions. In many countries, oral traditions are a significant part of the cultural heritage. It helps develop language skills, enhances creativity, and connects children to their cultural roots. It can also be done with minimal resources (e.g., without books or technology), making it cost-effective. For example, teachers can tell traditional folktales or create stories together with the children. Incorporating songs, rhymes, and verbal games to reinforce language and memory skills is where most of the Ethiopian ECE is bare of this method. This methodology involves using the local community and environment as educational resources.

Children can learn from their surroundings, including local people, customs, and experiences. In many countries, communities are often rich in resources, and community-based learning can provide real-world contexts for children to understand the world around them. This method helps children make connections between classroom learning and life outside of school—for example, field trips to local farms, markets, or traditional workshops. Inviting local community members (e.g., artisans, farmers, elders) to share their knowledge with the children is critical to fostering children's learning. Still, these methods were too broad in Ethiopian ECE. Active learning focuses on engaging children in the learning process by involving them directly in meaningful tasks. Children are encouraged to think critically, solve problems, and reflect on their learning. In resource-constrained environments, hands-on activities are an effective way to promote cognitive development and build skills like problem-solving, collaboration, and critical thinking. For instance, building models with recycled materials to learn about shapes, sizes, and structures is extremely significant for children's learning and creativity in their lives in the future. Collaborative group tasks, such as sorting, counting, or classifying objects, to practice numeracy and logical thinking are too significant in the educational lives of children (Fantahun, 2016).

Moreover, inquiry-based learning encourages children to ask questions and explore answers. Teachers act as facilitators who guide children's exploration, support their curiosity, and provide opportunities for problem-solving. Inquiry-based learning fosters curiosity, independent thinking, and a sense of responsibility for one's learning. It can be done with limited resources by using everyday objects and natural phenomena. For example, encouraging children to ask questions about nature (e.g., the growth of plants or the weather) and explore answers through observation or simple experiments. Using local objects or materials to investigate concepts like water flow, gravity, or colors will make children active learners and creators in their future academic lives. Collaborative learning involves children working together in small groups to accomplish tasks, solve problems, or create projects. This methodology fosters teamwork, communication, and social skills. Peer learning helps children develop social bonds and problem-solving skills. It is especially useful in overcrowded classrooms, as children can learn from each other and provide support to their peers. For instance, group activities such as creating murals, group storytelling, or working together to solve a puzzle make children active and engaged in their academic lives. Older children mentoring younger children in basic skills also significant in learning (Tiresew *et al.*, 2009; Fantahun, 2016, Belay & Belay, 2018).

Furthermore, multisensory learning approach engages multiple senses (visual, auditory, tactile, etc.) to enhance learning. Activities are designed to appeal to various sensory modalities to cater to different learning styles and developmental stages. Children may have limited access to formal education resources (Chan & Chan, 2003). Multisensory learning leverages what is available in the environment to engage children in meaningful ways, fostering better retention and understanding. For, instance, sensory activities like sorting materials by texture or color, and using local fruits and plants for

counting or measuring physical quantities are durable learning styles. Storytelling with actions, music, or props that appeal to different senses (Fantahun, 2016; Belay, 2018). The other teaching method in ECE is scaffolding which involves supporting children during the learning process, gradually removing assistance as the child becomes more capable. Teachers and caregivers provide the right amount of help at the right time. This approach is particularly useful in environments where children may have gaps in their knowledge due to limited access to education. Scaffolding ensures that children progress at their own pace with the necessary guidance. For example, a teacher might model how to solve a problem and then guide the children through it until they can do it independently; using visual aids, props, or gestures to help children understand complex concepts (Belay & Belay, 2016; MoE, 2021). It can be summarized from what has been said so far, appropriate ECE teaching methodologies must be adaptable, resource-conscious, and responsive to the diverse needs of children. By focusing on play, inquiry, community, and inclusivity, educators can create effective learning environments that support cognitive and social-emotional development, even in the face of limited resources. These methodologies foster a holistic approach to early childhood learning, ensuring that children are prepared for future academic success and lifelong learning.

METHOD

This study adopted explanatory sequential research designs to assess problems of curriculum relevance in enhancing children's cognitive development in ECE at Chiro, Dire Dawa, and Harar Towns of Eastern Ethiopia. The researcher selected this design because it helped him follow the procedures to collect quantitative data through close-ended questionnaires and qualitative data through observation which he used to administer the study to the participants to describe the attitudes, opinions, behaviors, or characteristics of the population. In this procedure, an explanatory sequential design researcher can collect quantitative and qualitative data using questionnaires and observational (Creswell, 2012). Explanatory sequential research designs also interpret the meaning of the data by relating the results of the statistical test to past research studies. The target population for this study consisted of pre-primary school teachers at Chiro, Dire Dawa, and Harar Towns in Eastern Ethiopia. The sample used for this study consisted of these three towns' pre-primary school teachers from 18 preprimary schools (private, religious, public, and government). 260 pre-primary school teachers were taken from 400 populations. Out of 260, 229 (88.08%) of them were females whereas 31 (11.92%) of them were males. A stratified random sampling technique was employed because firstly, there were different subdivisions in the targeted population which are important to be considered. Secondly, there were also variations in population sizes of different strata in this case (sex, schools, and towns) of the populations which were not equal in size. A three-section questionnaire was used to collect relevant data. Section I consisted of information about socio-demographic data; section II consisted of cognitive development; and section III the extent to which teachers were qualified to the required professional competence in the ECE curriculum to provide developmentally appropriate practice to children. A pilot study was conducted on thirty pre-primary school teachers (14 males and 20 females) who represented the population character but not the sample to check the reliability of the items by using Cronbach Alpha.

Table 1. Reliability test

No	Variables	Number of items	Cronbach's alpha
1	Cognitive development dimension	20	.84
2	The extent to which ECE teachers are qualified	10	.81
	Overall reliability	31	.85

Accordingly, the researchers were able to decide the characteristics of the questionnaire that needed to be adjusted or remained or to be changed in some technical words or phrases that seemed to be technical for these participants. The reliability of the questionnaire was, therefore calculated as .84 and .81 in the 2nd and 3rd sections and .85 is an overall reliability of the questionnaire which were highly reliable respectively. Therefore, it was safe to use them with a little modification. The validity was tested by expert and well-experienced teachers over the area. The questionnaire was administered

on a face-to-face basis so that the distributed questionnaires were collected from these participants after they were completed filling them. For proper understanding and evaluation of the purpose of the research questions raised and to ultimately achieve the research objectives, different techniques of data analysis were employed. Descriptive statistics such as frequency, percentages, means, grand mean, and standard deviation were used to summarize the socio-demographic variables of the participants and participants' response to the problems of curriculum relevance in enhancing children's cognitive development in ECE in Eastern Ethiopia while inferential statistics (one-way ANOVA and stepwise multiple regression) were used to show the mean differences among groups, and average relationship among variable respectively. The level of significance was set to be $\alpha = .05$. Moreover, the data collected from observational checklists were narrated thematically to substantiate the quantitative findings.

RESULTS

This chapter has two parts: the first part deals with the characteristics of the participants, and the second part presents the analysis and interpretation of the main findings. The data gathered through observational checklists were supposed to supplement the quantitative data. A questionnaire was distributed to 276 preprimary school teachers from 18 schools; 260 (94.20%) copies were returned. The respective quantitative data were analyzed quantitatively using frequency, percentage, mean, standard deviation, one-way ANOVA, and stepwise multiple regression. On the other hand, the triangulations were made to check the consistencies and variations of the results obtained from both instruments. The analyzed data were compiled and organized in a way that suits the interpretations of the results in addressing the specific objectives of the study. In this way, 5 tables were constructed to categorize the objectives of the study in thematic groups in detail to deal with the responses of the participants. The quantitative data obtained from participants were analyzed using the Statistical Package for the Social Sciences (SPSS version 22).

Table 2. Sex versus pre-primary school teachers' cross-tabulation.

Sex	**Pre-primary school teachers**				**Percentage (%)**
	Dire Dawa Center	Chiro Center	Harar Center	**Total**	
Female	102	27	100	229	88.08
Male	18	8	5	31	11.92
Total	120	35	105	260	100
Percentage (%)	46.16	13.46	40.38	100	

Table 2 shows that the majority, 229 (88.08%) of the sampled pre-primary school teachers were female whereas 31 (11.92%) of them were male teachers. From this data, one can understand that female teachers are more employed than their counterparts' males. On the other hand, the majority, 120 (46.16%) of the participants were from Dire Dawa Center; 105 (40.38%) of them were from Harar Center whereas 35 (13.46%) of them were from Chiro Center.

Table 3. Qualifications versus pre-primary school teachers' cross-tabulation.

Qualification	**Pre-primary school teachers**				**Percentage (%)**
	Dire Dawa	Chiro	Harar	**Total**	
Grade ten Complete	23	3	2	28	10.77
Grade twelve Complete	10	12	12	34	13.08
CEC education certificate	34	10	39	83	31.92
(TTC) Diploma	37	6	41	84	32.31
10 + 3 graduate	4	0	1	5	1.54
Others if there are any	8	4	10	22	8.46
12 Grade Complete and CEC	2	0	0	2	.77
12 Grade Complete and TTCC	2	0	0	2	.77
Total	120	35	105	260	100

Table 3 shows that the majority, 84 (32.31%) of the pre-primary school teachers had a college Diploma from Teachers' Training College (TTC); 83 (31.92%) of them had a Certificate in Early Childhood Care and Education (ECCE); 34 (13.08%) of them had no training on early child education but they only completed grade 12; 28 (10.77%) of them had no any certificate in early child education but they only completed grade ten; 22 (8.46%) of them had unknown of their qualifications. They had neither a college diploma from Teachers' Training College nor a certificate in early childhood education. 5 (1.54%) of them were 10 +3 graduates of unspecified fields of study whereas both grade 12 complete plus CEC and grade 12 complete plus TTCC were accounted for, 2 (.77%) each. Generally, 86.92 % of preprimary school teachers were not trained in early childhood education. This may indicate that it seemed that no special attention has been given to early childhood education in Ethiopia in general and the study area in particular. This showed that for preservice teacher preparation, the 2014/15 ESDP-IV defined the optimal qualification of a university degree, but accepted the minimum educational qualification of secondary level at a teacher training school (licensure). Data for 2015 show that about 86 % of preschool teachers and 92% of daycare center workers did not even have the minimum preparation required. Another problem involves the curricula of the teacher preparation courses, which do not always deal adequately with the specificities of ECE. Regarding in-service training, there is no national regulation, this being up to the educational systems and the school institutions to provide it to its teachers.

Table 4. Curriculum relevance content to children's cognitive development (n_i = 260, p <.05)

Descriptive Statistics			ANOVA Summary Table					
Items	Mean	SD	SV	SS	df	MS	F	*Sig.*
Measuring length, weight, temperature, and use of money	1.93	.81	Between Groups	4.41	2	2.21	3.39	.03*
			Within Groups	167.20	257	.65		
			Total	171.61	259			
Collecting and organizing information	2.04	.85	Between Groups	8.91	2	4.46	6.45	.02*
			Within Groups	177.62	257	.69		
			Total	186.53	259			
Solving quantitative problems	2.26	.81	Between Groups	8.81	2	4.40	7.01	.01*
			Within Groups	161.41	257	.63		
			Total	170.22	259			
Understanding their environment	2.93	1.28	Between Groups	54.01	2	27.01	18.62	.00*
			Within Groups	372.74	257	1.45		
			Total	426.75	259			
Developing their logical thinking and reasoning skills	3.42	1.23	Between Groups	21.16	2	10.59	7.35	.01*
			Within Groups	370.29	257	1.44		
			Total	391.45	259			

*The mean difference is significant at the .05 level

Table 4 indicates that the computed mean scores (1.93, 2.04, and 2.26) of the participants indicated that the curriculum under usage helped children develop measuring length, weight, temperature, and use of money, collecting and organizing information, and solving quantitative problems respectively were low. Moreover, the computed standard deviations (.81, .84, and .81) respectively showed that there were little variations of scores from the mean value among the three sampled towns' pre-primary schools teachers in measuring length, weight, temperature & use of money, collecting & organizing information and solving quantitative problems. However, the computed F-ratio at $\alpha = .05$, $F_{(2, 257)} = 3.39$, $F_{(2, 257)} = 6.45$, and $F_{(2, 257)} = 7.01$ which exceeded the critical region at $F_{(2, 259)} = 3.09$. Therefore, it could be concluded that there were statistically significant mean differences among these participants in helping children measure length, weight, temperature & use of money, collecting & organizing information, and solving quantitative problems, $F_{(2, 257)} = 3.39$, $F_{(2, 257)} = 6.45$, and $F_{(2, 257)} = 7.01$, $p<.05$. Moreover, the open-ended questionnaires also validated that there were differences among pre-primary schools in the three sampled towns in services related to curriculum relevance content in general and among private, public, government, and religious schools in particular.

On the other hand, the computed mean scores (2.93 and 3.42) of the same table indicated that the curriculum relevance content under usage helped children understand their environment and develop their logical thinking and reasoning skills respectively were moderate. Moreover, the computed standard deviations (1.28 and 1.23) of the participants showed that there was little variation in scores from the mean value among the participants. Furthermore, the computed F-ratio at $\alpha = .05$, $F_{(2, 257)} = 18.62$, and $F_{(2, 257)} = 7.35$, which exceeds the critical region at $F_{(2, 259)} = 3.09$. Therefore, it could be concluded that there were statistically significant mean differences among these participants in curriculum relevance content in helping children understand their environment, and developing their logical thinking & reasoning skills, $F_{(2, 257)} = 18.62$, and $F_{(2, 257)} = 7.35$, $p<.05$, respectively. Moreover, the open-ended questionnaires also validated that there were differences among pre-primary schools in the three sampled towns in services related to curriculum relevance in general and among private, public, government, and religious schools in particular.

Table 5. The most commonly used methods of teaching in the ECE curriculum ($n_i = 260$, $p<.05$)

Descriptive summary		**Coefficients**							
Items		**Model Summary**			**USDC**		**STDC**	**t**	**Sig.**
		Mean	R	R^2	B	SE	Beta		
No	(Constant)				6.99	.44		15.77	.00
1	Discussions	2.67			-.50	.10	-.34	-5.07	.00
2	Categorizing substances according to their color, shape, length, and size as a method of teaching in ECE	3.35	.89	.7921	-.36	.10	-.33	-3.58	.00
3	Explanation	3.61			-.53	.08	-.37	-6.47	.00
4	Brainstorming	4.30			-.15	.08	-.20	-2.01	.05

a. Dependent Variable: Pre-primary school curriculum

Table 5 indicates that the computed mean scores (2.67 and 3.35) of the participants indicated that they occasionally used discussions and categorizing substances according to their color, shape, length, and size as a method of teaching in ECE respectively; however, from the same table, the computed mean scores (3.61 and 4.30) of the participants were indicated that they were frequently used explanation and brainstorming as a method of teaching in ECE respectively. Moreover, the stepwise multiple regression analysis coefficients (R, R^2) = (.89, 79.21%) showed us that there was a solid positive relationship among the dependent variable (pre-primary schools) and independent variables (method of teaching specifically discussion, categorizing, explanation, and brainstorming) in ascending order. It was found that out of the ten most commonly used methods of teaching in ECE, four of them (discussion, categorization, explanation, and brainstorming) respectively were statistically significant average relationships among pre-primary schools in the three sampled towns. In contrast, the rest six commonly used methods of teaching (play-based instruction, questions and answer, cooperative learning, learning through experience, field trips, and role-play) in ECE were not statistically significant average relationship.

The t-value is statistically significant for the four commonly used methods of teaching discussion, categorization, explanation, and brainstorming in Table 6 given above. These indicated that discussion, categorization, explanation, and brainstorming contributed 79.21% to ECE's methods of teaching whereas the rest 20.79 % ($1-R^2$) *100 contributed to ECE's methods of teaching by unexplained variables. This result means that 79.21% of the variation in the dependent variable is accounted for by the variations in these independent variables. The accompanying SPSS computer printout shows that a regression equation that predicts pre-primary schools in the three sampled towns' and the most commonly used methods of teaching from ten types of independent variables, only four of them were statistically significant: discussion ($\mathbf{x_1}$), categorizations ($\mathbf{x_2}$), explanation ($\mathbf{x_3}$) and brainstorming ($\mathbf{x_4}$). Therefore, the multiple regression equation for the dependent variable- pre-primary schools learning- ($\mathbf{y}$) could be expressed in terms of these statistically significant independent variables- was: $\mathbf{y = 6.99 - .50x_1 - .36x_2 - .53x_3 - .15x_4}$ where 6.99 is constant. The negative sign in the

slope (-.**79**, **-.36, .53, -.15**) showed us that they tend to have a decrement of an average of one point in each pre-primary school learning as those methods increase in one unit of the frequency of the usage of these methods.

DISCUSSION, CONCLUSION, and SUGGESTIONS

The present study was aimed at assessing the Problems of Curriculum Relevance in Enhancing Children's Cognitive Development in ECE in Ethiopia. The results highlighted that about 88% of the sampled pre-primary school teachers were females. The most impressive finding of this study was that about 87% of ECE teachers were not trained in ECE. The previous finding indicates that early childhood programs that are developmentally appropriate should allow for a wider range of developmental interests and abilities than the chronological age range of the group in which preprimary school teachers have to be trained so as fit to this objective. "The preprimary school teachers should be prepared to meet the needs of children who exhibit unusual interests and skills outside the normal developmental range" (Kitano, 1982, p.16). The teacher should also try to increase the difficulty of the activities, to challenge the children as they develop understanding and skills. Teachers need to listen, observe, and interpret children's behavior; asking questions, making suggestions, and adding more complexity and new ideas are important to the success of these objectives; however, most preprimary school teachers lack these fundamental skills to deliver the curricula as it was expected to be delivered. This is because they did not take any courses about the ECE. No in-service training has been given so the program is almost dead and meaningless. The environment is truly not child-centered, and the adult is not somewhat of a guide or facilitator (Elkind, 1986, p.37). This indicated that preprimary school teachers should be trained in these programs to fit the purpose of the ECE curricula. Otherwise, business as usual does not work in the 21st century.

Providing ongoing training and professional development opportunities for early childhood educators is crucial for ensuring quality education. However, many educators (87%) in the study area lack access to comprehensive training programs that equip them with the knowledge and skills to teach young children effectively. Investing in professional development for early childhood educators is essential to keep them abreast of the latest research, teaching methodologies, and best practices (Kostelnik *et al.*, 2019). Continuous learning opportunities will empower educators to provide high-quality and developmentally appropriate instruction. Collaboration between educational institutions and early childhood education programs can facilitate the exchange of knowledge and expertise (Gestwicki, 2017). This partnership can create opportunities for educators to receive specialized training and gain insights from experienced professionals in the field (Kostelnik *et al.*, 2019). Incorporating technology into professional development programs can enhance accessibility and provide educators with innovative teaching strategies. Online courses, webinars, and virtual conferences can offer flexibility and convenience, allowing educators to grow professionally at their own pace. While ECE faces various challenges, addressing these issues is crucial for providing every child with a solid foundation for lifelong learning. By investing in adequate funding, attracting & retaining skilled educators, and providing comprehensive training and professional development opportunities, we can overcome these obstacles and ensure high-quality ECE (Gestwicki, 2017; Kostelnik et al., 2019).

These challenges (unqualified and not well-trained ECE teachers) facing the ECE in Ethiopia have significant implications for children's development. Among these challenges was inadequate access to quality ECE which can hinder children's cognitive development. These results in the ECE program illustrate how children without early exposure to enriching learning experiences may enter primary school unprepared, lagging behind their peers in essential skills such as language acquisition, problem-solving, and logical thinking. They may be unable to engage in activities stimulating their cognitive abilities, such as hands-on experiments, interactive storytelling, or educational games. As a result, their cognitive development may be stunted, making it challenging for them to grasp complex concepts and keep up with their classmates.

The second impressive finding of the current study was that measuring the physical quantities (like length, weight, temperature, use of money, collecting & organizing information, and solving quantitative problems that related to numeracy skills) among children daily was significantly different among the three towns' private, public, government, and religious schools even if the finding indicated that the numeracy skills mean scores were low. An accumulating body of research suggests that early numeracy skills are critical to developing long-term success in school (Byrnes & Wasik, 2009; Claessens & Engel, 2013; Geary, Hoard, Nugent, & Bailey, 2013; Jordan, Kaplan, Ramineni, & Locuniak, 2009; Stevenson & Newman, 1986; Watts, Duncan, Siegler & Davis-Kean, 2014). Developmental and cognitive theories predict that early numeracy knowledge is associated with later achievement because early numerical skills facilitate students' future mathematical skill acquisition (Entwisle & Alexander, 1990; Gersten et al., 2009; Jordan et al., 2009). Furthermore, a previous study by the Mesfin, Dihel, and Zerihun (2018); Diale and Sewagegn (2021) identified that there were significant disparities in the availability of resources, quality facilities, and access to trained educators. Children in rural, low-income, and marginalized communities often had limited access to quality ECE, which was exacerbated by gaps in curriculum delivery. The rise of digital education during the COVID-19 pandemic highlighted a digital divide, where many children, particularly those from lower socio-economic backgrounds, lacked access to the technology necessary for remote learning. In many countries, the ECE curriculum did not adequately reflect the diverse cultural backgrounds of children whereas the Ethiopians have not yet been different from these countries (Mesfin, Dihel, & Zerihun, 2018). There was a growing need for a curriculum that was more inclusive and responsive to the varied cultures, languages, and family structures of children, which was observed as the significant contributing factor to low equity, access, and poor quality education in Ethiopia. The curriculum often struggled to address the language needs of children from non-dominant linguistic backgrounds, particularly in multilingual societies, which created challenges in language acquisition and communication development (UNICEF, 2020; Diale & Sewagegn, 2021).

This skill-building framework rests on the idea that numerical skills are a particularly hierarchical subject, in which mastery of simple concepts and procedures is required for understanding more difficult mathematics. For example, solving even a simple algebraic equation would be impossible without knowledge of operations such as division and multiplication, and this operational knowledge depends on understanding the basic principles of counting. Relatedly, Siegler, Thompson, and Schneider (2011) describe how children gradually broaden the class of numbers they understand as they progress through mathematics, with successful children moving from mastery of whole numbers in early grades to fractions in later elementary and middle school. Indeed, a well-developed body of empirical work documents children's carefully sequenced cognitive steps as they expand their understanding of numbers and mathematics (Sarama & Clements, 2009; Belay and Belay, 2016; Belay, 2018). Beyond the cognitive skill-building framework lie other developmental reasons to expect that early success in numerical skills would set children on a successful trajectory throughout school. Complex interactions between the child and her/ his environment in the early schooling years are likely to leave long-lasting influences on the child's developmental trajectory (Bronfenbrenner & Morris, 2006). For example, high-achieving children in kindergarten are more likely to receive positive feedback regarding their academic proficiency from teachers, parents, and peers, which in turn may boost their perception of their numeric competence (Bong & Skaalvik, 2003). Relatedly, early mathematics achievement could be a gateway to higher-ability tracking in school, which would also support further academic development. Indeed, these pathways from early to later mathematics achievement have received empirical support, as evidence suggests that self-concepts and placement into gifted and talented programs both mediate the association between early and later mathematics (Watts et al., 2015).

The development of counting skills and its impact on arithmetic skill development has been well studied. Sequential counting refers to the ability to recite the number word sequence (e.g., 1, 2, 3, 4, 5…10) and acknowledge the position of a number word in this sequence (e.g., 1, 2, 3…what comes next? 4; or 4 comes after 3 and before 5) without explicitly understanding the cardinal meaning (how

many are there?). Gradually, children apply their knowledge of the counting sequence to enumerate sets of objects. This serial quantification process is referred to as cardinal counting and involves mapping each number word onto each item in a set (one-to-one correspondence) to acknowledge the exact number of items in a collection (Fuson, 1988; Belay and Belay, 2016; Belay, 2018). Ultimately, children demonstrate an understanding of the numerical meaning of number words with the acquisition of the cardinality principle (Gelman, Meck, & Merkin, 1986). In the research literature, counting skills in preschool and kindergarten children have commonly been assessed by asking young children to watch a hand puppet point to and count objects or dots on a page, and to tell the puppet whether or not s/he counted correctly. Incorrect counts typically violate one of three counting principles: one-to-one correspondence (one counting tag is applied to each object); stable order/ordinarily (number tags must be applied in an invariant order); and cardinality (the last number counted refers to the total quantity). Early studies demonstrated that typically developing preschool-aged children are sensitive to violations of the one-to-one and cardinal principles, correcting the puppet when s/he double counted, skipped an item, or repeated an incorrect cardinal value (Gelman *et al.*, 1986).

Why an early focus on cognitive skills is crucial is that some young children may have developmental delays or challenges that can be identified and addressed if caught early. Because of this, parents, teachers, and caretakers should keenly observe each child's development and address any issues as early as possible. This can prevent the child from struggling later on in life. In a fast-developing, competitive world, cognitive skill development from an early age is very crucial for a child. Young children grow physically during their early childhood, and they also grow mentally by observing and interacting with the world around them (Belay & Belay, 2016; Gestwicki, 2017; Belay, 2018). Parents need to foster cognitive development in their child as soon as the child is born because it is the foundation for the child's success later on in life. For example, research shows that children who can distinguish sounds at six months of age are better at acquiring the skills for learning to read at four and five years of age. Another way that one can foster his/her child's cognitive development is to provide them with choices and prompt them to make thoughtful decisions. One should also allow his / her child to explore different ways of solving problems (Gestwicki, 2017). While one may want to provide some gentle guidance and encouragement, allow one's child some time to figure out things, like a new puzzle. This may require some patience on one's part, but it will ultimately help them learn.

One of the benefits of cognitive development in ECE is to (i) promote long-term learning where learning, as we all know, is a lifelong process. Cognitive learning encourages students to take a hands-on approach to learning which will help them make important decisions later in life by studying all the pros and cons; (ii) develop problem-solving skills that are essential later in life, both for career-building and for managing a family; (iii) improve comprehension because cognitive learning helps children comprehend things clearly and develop a deeper understanding of situations and circumstances; (iv) improve confidence to deal with deeper comprehension skills and more knowledge where children can approach life with greater enthusiasm and confidence, helping them be successful in all their endeavor's; (v) improve memory for a deeper understanding of the subject makes the children retain the knowledge gained for a longer time, thus improving their memory; (vi) instill a love of learning such as concept-based education instills a lifelong love of learning in the children, pushing them to continue gaining knowledge and developing new skills. Both of these things are important for career success; and (vii) emphasize innovation where cognitive learning helps children reflect on problems, explore different ideas, and come up with new solutions. Children should be able to improve their ability to focus, remember information, and think more critically as they age. Cognitive skills allow children to understand the relationships between ideas, grasp the process of cause and effect, and improve their analytical skills (Watt, 2013; Belay and Belay, 2016; Belay, 2018); Soderman *et al.*, 2019). These all will happen if the ECE program has well-trained teachers, well-informed parents, administrators, and a developmentally appropriate curriculum for the program.

In conclusion, poor cognitive development in the ECE curriculum in Ethiopia has been a concern due to various challenges that hinder the effectiveness of the curriculum in promoting optimal cognitive development for young children. The key conclusions on the reasons for poor cognitive development identified in this study were poor teacher training and professional development, limited resources and learning material, inconsistent and fragmented curriculum implementation, inadequate implementation of play-based learning, cultural and language barriers, socioeconomic factors and family support, physical and emotional stressors, and lack of early intervention for developmental delays. Therefore, poor cognitive development in Ethiopia's ECE system can be attributed to a combination of factors, including insufficient teacher training, limited resources, large class sizes, socioeconomic disparities, and challenges in curriculum implementation. These barriers prevent children from engaging fully with the learning process, hindering their cognitive development. Addressing these challenges requires a multifaceted approach, including better resource allocation, enhanced teacher professional development, and more effective community and family engagement in the education process. Only by addressing these systemic issues can the cognitive development of young children in Ethiopia be meaningfully improved.

Moreover, a lack of understanding about the developmentally appropriate curriculum on the part of many parents, teachers, and administrators is largely the result of early childhood professionals' failure to clearly articulate what they do, and how they do it. Setting up an environment conducive to learning at all developmental levels and having well-qualified preprimary school teachers is not an easy task in the Ethiopian context because there are no well-organized preprimary teachers' training institutions, and well-designed, and developmentally appropriate curricula. Operating professionally, from a knowledge base of early childhood research and theory will enable success to prevail for the children only if the teacher is well-trained and allowed to become autonomous in the teaching, and decision-making process concerning a given classroom of children. The teacher, the parent, and the administration are vital as a cooperative unit in educating a child; however, each teaching situation is different, and there needs to be compromise when facing the unique challenges of ECE. There does not appear to be one single exact prescription for the best approach. Some middle ground must be found, with the teacher using his/her instincts about what is best for the child. Parents and early childhood educators are both responsible for introducing and teaching early numeracy skills and academic language along with skills both formally and informally. Learning can take place through daily interactions with numeracy activities and games, casual conversations about math concepts, and formal instruction time. Play is a necessary part of early math learning as it gives students opportunities to use and practice their academic language alongside a skill. Based on the research found, integrating numeracy skills into the early childhood curricula would be a beneficial change for future math courses and STEM occupations. Early numeracy skills not only pave the way for success in future math classes but also help children form a positive attitude toward math and learn basic executive functioning and problem-solving skills. The knowledge of early numeracy skills, the development of math skills, and the best practices for teaching these skills will help parents, early childhood educators, and administrators best prepare young children for a strong academic career. Early numeracy skills indeed have a strong impact on academic achievement throughout elementary school and therefore should be a main component of early childhood education curricula.

This study concluded that ECE is critical in shaping children's cognitive development. However, it faces various challenges, including inadequate funding, teacher shortages, and training limitations on behalf of the teachers. Only, one ECE teacher training college exists in Ethiopia where more than 120 million people live. These challenges can significantly affect children's overall well-being and future success. Investing in ECE, enhancing teacher training and retention strategies, and advocating for policy changes can overcome these challenges and ensure all children have access to quality ECE. The future of ECE lies in embracing emerging trends, leveraging technology, and fostering continued research and discussion. Only through collective efforts can the country provide every child with the strong foundation they deserve for a lifetime of learning and success. The methodology (discussion, categorization, explanation, and brainstorming) of teaching children in ECE under this study was

much denied by the previous research findings. This indicated that the ECE curricula in the area under study are developmentally inappropriate. The ECE curriculum in Ethiopia has contributed a significant step in promoting cognitive development by introducing foundational literacy and numeracy skills early on. However, challenges such as insufficient teacher training, resource constraints, limited play-based learning, and multilingual hurdles need to be addressed for children's cognitive development to reach its full potential. There is a growing recognition that for effective cognitive growth, the curriculum must be more balanced, focusing not only on academic skills but also on fostering.

Ethics and Conflict of Interest

The author of the study acted in accordance with ethical rules in all processes of the research.

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