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Exploring educational dynamics: Insights from the rhetoric and realities of leaders, teachers, students, and parents' contributions to improving educational quality

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Abstract

This issue presents the multifaceted dynamics shaping education and institutional development. Drawing on a diverse collection of ten research findings and one book chapter review, it explores factors influencing educational outcomes, such as parental involvement, teacher effectiveness, culturally responsive pedagogy, inclusive education challenges, strategic management, emotional intelligence, and the role of leadership in research productivity. Additionally, the current issue brings to light some factors that influence education quality, taken from studies that examine the contributions and impacts of key stakeholders, including educational leaders, teachers, students, and parents. This editorial provides insights that underscore the significance of addressing these interconnected issues to improve educational quality and promote institutional success in Ethiopia and beyond.

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Bahir Dar Journal of Education, educational dynamics, rhetoric-reality gap, key education stakeholders, quality education

Introduction

In an era of rapidly evolving educational landscapes, understanding the multifaceted aspects of educational dynamics is crucial for fostering institutional effectiveness and enhancing learning outcomes (Graham & Colin, 2023). This issue of Bahir Dar journal of Education presents a diverse range of topics, each shedding light on critical elements influencing education from primary through higher education. Our latest collection of articles offers a comprehensive exploration of key issues impacting education from multiple perspectives. The articles in this issue can be categorized in two ways.

In one way, they can be categorized across different education levels. In this regard, some articles explore various educational problems at the pre-primary, primary and secondary school levels while others examine educational aspects at the TVET and higher education levels. In another way, the articles included in the present issue can be seen from the rhetoric-reality gaps of key stakeholders' (leaders, teachers, students, and parents') contribution in improving quality. Nowadays, the quest for quality education has become a

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national priority in many education systems (MoE, 2023; Molla & Tiruneh, 2023), with stakeholders across various sectors continually emphasizing its importance. However, the gap between the rhetoric and the realities on the ground often remains substantial.

Leaders play a key role in improving education quality by shaping the vision, goals, and culture of educational institutions (Leithwood et al., 2004). They are responsible for creating an environment where educators feel empowered to innovate and students are encouraged to thrive. Effective leaders prioritize professional development for teachers, ensuring that they have access to the latest pedagogical tools and resources. By fostering a culture of continuous learning, leaders help educators stay up-to-date with the best teaching practices and technologies, which in turn enhance student outcomes (Aradom & Charles, 2022). Moreover, they establish systems for regular assessment and feedback, helping institutions to refine their approaches and address gaps in teaching and learning.

In addition, leaders contribute to improving education quality by promoting inclusive policies that ensure equitable access to learning opportunities for all students. They work to eliminate barriers to education, such as socioeconomic disparities, and advocate for policies that support diversity in the classroom. Leaders also play a crucial role in securing funding and resources to enhance infrastructure, integrate technology, and support extracurricular activities that enrich the learning experience (Young et al., 2023). Through their strategic decision-making, leaders build partnerships with community organizations, businesses, and government agencies to create a supportive network that nurtures students' academic and personal growth.

For example, at the helm of educational reform in Ethiopia, leaders articulate ambitious visions of inclusive, equitable, and quality education for all. Policies are crafted, strategic frameworks developed, and budgets allocated, marking significant strides towards transforming educational landscapes. Yet, translating these goals into effective and sustainable change requires navigating complex bureaucratic processes, mobilizing resources effectively, and ensuring accountability at all levels. The challenge lies in bridging the gap between policy formulation and on-the-ground impact, where leadership must align rhetoric with actionable strategies that prioritize educational excellence and equity.

Thus, from key stakeholders' contribution perspective, studies from this issue indicate that the understanding of strategic management among Ethiopian public university leaders is crucial for the sustainable success of institutions. However, the rhetoric of strategic leadership often outpaces the reality of its execution, leading to challenges in achieving long-term educational goals. Similarly, the perceived impact of deans' transactional leadership behaviors on research outputs emphasizes the critical role of academic leadership in fostering an environment conducive to research and innovation. The mediating effect of workplace learning capability further highlights the complexities involved in translating leadership rhetoric into tangible academic success.

Similarly, teachers play a crucial role in enhancing the quality of education by creating an engaging and supportive learning environment. Their ability to design effective lesson plans, utilize innovative teaching methods, and adapt to diverse student needs fosters a culture of active learning (Michaelowa, 2001). By integrating technology, applying differentiated instruction, and encouraging critical thinking, teachers ensure that students not only absorb information but also develop the skills needed for future success. Their

continuous professional development, through workshops and collaborations, helps them stay updated with modern educational trends, ensuring their teaching remains relevant and effective.

Beyond the classroom, teachers contribute to improving education quality by actively participating in school improvement initiatives and policy development. They provide valuable insights into curriculum reforms, assessment methods, and student welfare programs (Sampaio et al., 2022). Teachers also collaborate with parents and communities to create a well-rounded educational experience that addresses the emotional, social, and academic needs of students. Their dedication to mentoring, research, and lifelong learning sets an example for students and peers alike, promoting a culture of excellence within the education system.

More specifically, studies revealed that faculty members at the tertiary level play a critical role in shaping education quality (Tena & Motuma, 2024). Researchers suggest that while there is a growing understanding of the importance of professional development among faculty, there remains a gap in practice, with implications for teaching quality. Furthermore, studies on teachers' practices in inclusive instruction, particularly for students with visual impairments, reveal that while there is rhetoric around inclusivity, the implementation in classrooms remains challenging. Additionally, the exploration of culturally responsive pedagogy in mathematics teaching shows that while teachers acknowledge the importance of cultural relevance, their competencies in this area vary, often depending on the level of support and professional development they receive.

Correspondingly, students play a pivotal role in improving education quality by providing valuable feedback on teaching methods, curriculum content, and learning environments. Their firsthand experience in the classroom allows them to identify strengths and areas for improvement, helping educators tailor their approaches to better meet students' needs. Active student participation in course evaluations, focus groups, and academic committees promotes a more responsive and adaptive educational system (Charles & Harriett, 2017). When students voice their opinions, they empower institutions to implement changes that enhance teaching effectiveness and create a more engaging, relevant, and student-centered learning experience.

Additionally, students contribute to education quality through peer-led initiatives, mentorship programs, and collaborative learning. By sharing knowledge and skills with fellow students, they foster a supportive academic community that enhances learning outcomes for everyone. Peer tutoring and group discussions not only reinforce students' understanding but also encourage critical thinking and problem-solving skills. Moreover, students who engage in research and innovation projects contribute to advancing the academic field, introducing fresh perspectives and solutions that benefit both their peers and educators. Their active involvement is essential in cultivating a dynamic and evolving education system.

Despite students are at the heart of educational quality (Carmichael et al., 2001), their academic performance is influenced by various factors, including developmental assets and hedonic well-being, emotional intelligence, and instructional effectiveness. Studies show that effective teaching practices, such as those found in culturally responsive pedagogy, further contribute to enhancing students' educational experiences and achievements. The interplay

between emotional intelligence and academic performance reveals the importance of holistic support systems that address both emotional and academic needs.

Parents play a vital role in improving the quality of education by actively engaging in their children's learning process (Gerald & Hungi, 2016). When parents collaborate with teachers and school administrators, they help create a supportive learning environment both at home and in school. This involvement can range from attending parent-teacher meetings, volunteering in school activities, and providing feedback on educational policies to monitoring homework and fostering a culture of curiosity at home. Their engagement helps educators better understand the unique needs of each student, enabling more personalized and effective teaching methods, which leads to improved student outcomes.

Moreover, parents contribute to educational quality by advocating for better resources, infrastructure, and policies that benefit all students. When parents are informed and involved, they can push for necessary changes such as updated learning materials, enhanced school safety, or improved extracurricular programs (Lemessa et al., 2023). Their advocacy can also extend to supporting initiatives that promote equity and inclusion in education, ensuring that all children, regardless of background, have access to high-quality learning experiences. In this way, parents serve as key partners in creating a thriving, well-rounded educational environment.

For instance, parental involvement in preschool education has been proven to significantly contribute to children's developmental outcomes (Hagos & Micheal, 2021; Moon & Hofferth, 2016). However, the reality is that such involvement is often inconsistent across different communities, with varying levels of awareness and engagement from parents. The challenges faced by micro and small enterprises and TVET programs are integral to understanding the broader educational context.

In sum empirical and theoretical literature evidences that improving the quality of education is a collaborative effort that involves leaders, teachers, students, and parents (Kufi, 2013; Lukala & Mramba, 2022). Educational leaders play a crucial role by setting clear visions, creating supportive environments, and driving policies that enhance teaching and learning. Teachers, as the frontline implementers, contribute by delivering engaging, high-quality instruction and fostering a positive learning environment. Students, through active participation, curiosity, and responsibility for their own learning, directly influence educational outcomes. Parents, on the other hand, support learning by providing conducive home environment and engaging with schools to ensure that their children’s educational needs are met. Together, these stakeholders create a dynamic system that continually works toward improving the overall quality of education.

Coming to the present issue, it offers a comprehensive analysis of recent studies ranging from classroom dynamics to institutional leadership. To provide brief highlights of each, for example, the research on developmental assets and hedonic well-being among youths by Meseret Ayalew Dejenie, Amare Sahle Abebe, and Dawit Asrat Getahun underscores the importance of understanding how student characteristics can shape their overall well-being. The study revealed the significant role that gender, school type, and location play in shaping students' internal and external asset profiles. Their findings emphasize the need for context-sensitive approaches to enhancing students' well-being, particularly in varying educational settings such as rural and urban schools. The study

underscores the importance of tailoring interventions to the unique needs of different student populations to foster better developmental outcomes.

A study by Addis Tsegaye Zegeye, Amera Seifu Belayneh, and Solomon Melesse Mengstie investigates the perceptions and practices of faculty members regarding professional development, shedding light on areas for improvement at institutions. Their qualitative research highlights a gap between the perceived and actual benefits of professional development programs, revealing a need for more engaging and contextually relevant training. The study suggests that enhancing teachers' motivation and sense of responsibility toward professional growth is essential for improving teaching quality and institutional success.

The article on parental involvement in preschool education by Simegn Sendek Yizengaw highlights how active parental participation contributes to better developmental outcomes for children, reinforcing the need for collaborative efforts between educators and families. Despite minimal involvement observed in the study, parental support significantly contributes to children's academic competence and social skills.

Ermias Kibreab Tesfaye and Belay Hagos Hailu's article indicated that inclusive education remains a significant challenge, particularly for students with visual impairments. The study indicated, while teachers demonstrated adequate knowledge of inclusive instruction strategies, their self-efficacy and attitudes towards inclusion significantly influenced their practice. This study sheds light on the factors affecting teachers' inclusive practices, offering guidance for developing more effective instructional strategies. The research highlights the need for continued professional development and supportive measures to enhance inclusive education for students with disabilities.

Culturally responsive pedagogy in mathematics education is investigated through the perceptions and competencies of teachers by Bihonegn Ayalew, Alemayehu Bishaw Tamiru, and Solomon Melese Mengistie's study. Their findings suggested that while culturally responsive pedagogy is occasionally practiced, increased teaching experience and cultural competence positively influence its implementation. This study emphasizes the need for culturally relevant teaching methods to enhance student engagement and learning outcomes.

Institutional leadership and its impact on educational success are also critically examined. The understanding of strategic management among Ethiopian public university leaders and the influence of deans' leadership behaviors on research productivity underscore the importance of effective leadership in driving institutional success. For example, the study by Asrat Dereb Ebssa and Dawit Asrat Getahun on strategic management in Ethiopian public universities revealed that the leaders' understanding was limited and inconsistent to potentially impacting institutional sustainability. The study also identifies gaps in leaders' conceptualization and practical application of strategic management principles, highlighting the need for a more comprehensive approach to strategic planning and implementation in higher education. Similarly, Ayetenew Abie Tesema, Getnet Demissie Bitew, and Solomon Melese Mengistie's study on the influence of perceived leadership behaviors on research productivity at universities, on the other hand, offers insights into how workplace learning capabilities mediate these relationships, pointing to ways in which leadership practices can be optimized for better research outcomes.

Zekarias Tadesse, Alemayehu Bishaw Tamiru, and Mulugeta Yayeh Worku's article on the development of micro and small enterprises and the challenges faced by TVET programs with implications for curriculum development revealed the misalignment between TVET interventions and enterprise needs. The study proposed strategies to improve TVET program implementation, including enhancing curriculum development to address systemic challenges sustainably. It also suggested how TVET programs can be better aligned with industry needs to support entrepreneurial growth.

Teacher effectiveness in English-medium instruction and its impact on academic achievement is assessed using a value-added model by Getu Tefera Woldegebriel, Abiy Yigzaw, Kassie Shiefere, and Zewdu Emiru. This study provides evidence on how effective teaching practices can lead to improved student outcomes. The study revealed a strong relationship between effective teaching and improved student performance, emphasizing the need for ongoing teacher training and support to

A study by Dagne Tafa and Belay Tefera examines how understanding and managing emotions can influence university students' academic performance. This research highlights how emotional competencies influence academic success, offering a refined understanding of the interplay between emotional and cognitive factors.

Like earlier editions of Bahir Dar Journal of Education, the current issue features a book review. In this regard, Mulugeta Yayeh Worku offers a critical examination of the concepts "educational process" and the educated person from the perspectives of Richard Stanley Peters' significant philosophical work. This review serves as a timely reminder of the enduring importance of philosophical inquiry in shaping our understanding of education. In this article, the reviewer emphasizes the need for greater conceptual clarity around these two concepts, as well as a stronger commitment to their practical application.

Generally, the collections from the current issue revealed that while there is widespread agreement on the need for improved quality in education, the paths to achieving this are troubled with challenges, requiring coordinated efforts and a clear understanding of each stakeholder's role. The studies also underscored that addressing the rhetoric-reality gap in education quality is not impossible. However, it requires a rigorous effort from all stakeholders to align intentions with actions. In this regard, leaders must focus on practical implementation strategies that address on-the-ground challenges. Teachers, on their part, needs to actively participate in ongoing professional development initiatives to enhance their effectiveness. Students should also be empowered with the necessary resources and support systems to engage fully in their education. It is also imperative to engage parents in the multifaceted aspects of education in meaningful ways.

We believe that the articles featured in the September 2024 issue will be instrumental to advance the quest for quality education. By exploring the complex interplay among student characteristics, teaching practices, institutional leadership, and curriculum development, we hope that this edition will be important in bridging the gaps between educational rhetoric and reality. The insights shared in this issue are also expected to inspire continued dialogue and drive actionable initiatives among educators, policymakers, and researchers.

Finally, we would like to extend our deepest gratitude to the authors, reviewers, and editors for their invaluable contributions in bringing this issue to fruition. Your steadfast commitment to enhancing our understanding and advancing education is truly remarkable.

Together, we can effect meaningful change and elevate the quality of education in Ethiopia and beyond. Thank you for being a crucial part of this journey.

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Ethiopian public university leaders' understanding of strategic management: A critical path to sustainable institutional success

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Abstract

This paper explores public university leaders' conceptual understanding of strategic management and its benefits as a tool to make strategic choices and decisions to gain competitive advantages toward pursuing excellence. The qualitative case study method was employed with an interpretive approach. The study examined the perspectives of eleven top-level leaders from here public universities, involving three presidents and eight vice presidents. . The findings revealed that public university leaders conceptualize strategic management through the lens of different strategic management facets. They tended to emphasize specific fundamentals of strategic management, such as strategic planning, strategic leadership, transformational leadership, and total quality management. As a result, their understanding of strategic management is conceptually incomplete and practically limited. Moreover, the meaning they ascribe to strategic management is very narrow in scope, and it lacks consistency. Thus, an ambiguity of concepts may mislead to set an unrealistic vision and be accompanied by designing irrelevant strategies, which may affect institutional sustainability. Besides, strategic management initiatives supported leaders in setting goals, enhancing program expansion, conducting performance evaluation, introducing internationalization, mobilizing resources, and building leadership ability. The paper concludes with implications for higher education policy and recommendations for further research.

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Strategic management, university leaders, public university, higher education, sustainable institution

Introduction

Strategic management (hereafter SM) is crucial for achieving sustainable success in higher education institutions globally. To achieve this, leaders of these institutions need a better understanding of strategic management, including when to use it and its benefits. University leaders play a key role in formulating and implementing strategies that align with national educational goals, institutional missions, and the dynamic demands of the global academic community (Fumasoli & Hladchenko, 2024; Gomez & Girotto, 2015). Furthermore, integrating strategic management into public universities management requires

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an understanding the dynamic capabilities that enable institutions to respond effectively to internal and external changes, such as innovation, resource reconfiguration, and the development of new capabilities that support institutional objectives and ultimately help them survive and prosper (Helfat et al., 2007; Taylor & De Lourdes Machado, 2006).

The higher education sector in Ethiopia has experienced significant expansion and transformation over the past three decades, driven by government policies that aimed at increasing access to tertiary education. However, this rapid growth has also brought about significant challenges, including concerns regarding quality education, resource allocation, and institutional governance (Molla, 2018; Saint, 2004; Yizengaw, 2004). Therefore, university leaders' ability to understand and implement strategic management practices is crucial in addressing these challenges and ensuring the long-term sustainability of their institutions. Institutions can enhance their operational efficiency, quality, and overall institutional resilience by embracing strategic management (Helfat et al., 2007). In this regard, leaders' understanding of SM is essential. As Gallos and Bolman (2021) succinctly state, "When you understand, you know what to do" (p. 42). This statement emphasizes the importance of knowledge-based leadership in making informed strategic choices and ensuring sustainable institutional success. Hence, understanding the unique importance of strategic management is a prerequisite for leaders to effectively formulate, implement, and evaluate key strategies for addressing the complexities and challenges faced by public higher education institutions in Ethiopia.

Therefore, this study explores university leaders' conceptual understanding of strategic management and its benefits as a tool for making strategic choices and decisions to gain competitive advantages toward pursuing excellence. With this intention, this article seeks to answer the following research questions: (a) How do Ethiopian public university leaders understand strategic management and its value? (b) What benefits do public universities receive from using SM as a tool for making strategic choices and decisions?

Strategic management has long been a point of discussion about its invaluable contributions to the business, public, and nonprofit organizations since it emerged as management thought. Strategic management consists of an institution's obtaining a unique, advantageous position in its field or market and sustainably maintaining this for an extended period (Johnson et al., 2008). Strategic management is further elaborated as the process consists of the analyses, decisions, and actions an organization undertakes to create and sustain competitive advantages (Dess et al., 2014). Moreover, Certo and Peter (1990, p.5) argued that "SM is a continuous, iterative process aimed at keeping an organization appropriately matched with its environment." From these concepts and definitions of SM, we can understand that strategic management helps an organization shape its future in the desired direction during uncertainties by enabling it to hold a competitive advantage. As Morden (2007) explained, competitive advantage is an idea that illustrates the degree of relative advantage owned by an enterprise within its sector compared to other organizations with which it directly or indirectly competes.

Others, such as Hitt et al. (2016), define the strategic management process as "the full set of commitments, decisions, and actions required for a firm to achieve strategic competitiveness and earn an above-average return." (P.6). These authors viewed SM as a substantial instrumental value that incorporates commitment, decisions, and actions; thereby,

the organization will become more competitive since it helps to yield more than average returns. Such conceptual standpoint is strongly linked with the notion of academic excellence, where excellence can be explained by achieving outstanding quality, producing exceptional, meritocratic, outstanding, and exceeding normal expectations (Brusoni et al., 2014). Some others also describe strategic management in various ways. For example, some describe it as a process for achieving high-level performance (Hitt et al., 2016), while others see it as a tool for gaining a competitive advantage (Morden, 2007). Likewise, Dess et al. (2014) describe SM as a principle that helps organizations thrive in times of crisis and uncertainty.

Most importantly, scholars view strategic management as a process that involves making sound decisions through identifying, implementing, and evaluating strategies (David & David, 2017; Dess et al., 2014; Wheelen & Hunger, 2012). Moreover, it involves three interconnected processes (David, 2011; Dess et al., 2014). For instance, David (2011) suggested that the strategic management process consists of strategic formulation (sometimes called strategic planning), strategic implementation, and strategic evaluation. David further explained that strategy formulation is the process of developing a mission statement, identifying external opportunities and threats, determining internal strengths and weaknesses, establishing long-term objectives, formulating alternative strategies, and selecting strategies to pursue. David added that strategy implementation also explains establishing annual program objectives, devising policies, motivating employees, and allocating resources to execute formulated strategies successfully. They also involve developing a strategy-supportive culture, creating an effective organizational structure, preparing budgets, and developing and utilizing information management systems. Similarly, strategy evaluation reviews external and internal factors that underlie current strategies, measures program performance, and takes corrective actions.

Therefore, strategic management is characterized by flexibility and a dynamic view of its environment. It is also profoundly change-oriented and emphasizes innovation and creativity. These characteristics imply that Ethiopian public university leaders must adopt a proactive and adaptive approach to strategic management. This entails anticipating and responding to changes in the educational landscape, fostering a culture of innovation within their institutions, and maintaining flexibility in their strategies to navigate emerging challenges and opportunities effectively. By doing so, institutions can enhance their sustainable success and resilience in a competitive and dynamic global academic community.

Though SM is a broad term, there has been a debate regarding conceptual understandings and their functions among strategic planning, strategic leadership, and strategic management in the management literature. There is ambiguity in using strategic management interchangeably with strategic planning and leadership. The terms strategic management and strategic plan may be used interchangeably at a time, but 'strategic management is much more than strategic planning.' To avoid such confusion, the researchers take the position of Johnson et al. (2008) strategic management model elements (aspects) since the model is comprehensive and informative. According to the model, strategic management is a broad concept, and strategic leadership and planning are part and parcel of it. Likewise, Macmillan and Tampoe (2001) explain the link between strategic management and leadership. They argue that SM is the formal and structured process by which an organization establishes a strategic leadership position. Then, they explain that strategic

leadership is about achieving sustained competitive advantage. Hence, strategic leadership is the outcome of the strategic management process. It is a state of being rather than a management mechanism. They concluded that strategic leadership does not replace strategic management; it results from it. Therefore, the three concepts are not the same but complement one another.

Even though the concept and practice of SM have their roots in military organizations, other organizations, such as businesses, public institutions, and nonprofits, including higher education institutions (HEIs), also adopt strategic management principles (Keller, 1983; Poister & Streib, 1999; Rowley et al., 1997; Siegel & Leih, 2018). SM is important and applicable to any organization but requires context-specific analysis. When applying SM in the higher education context, it should consider its unique nature, such as its loosely coupled nature, the need for greater autonomy, and other significant factors (Birnbaum, 1988).

The emergence of SM in higher education is a recent development, making it a young discipline. In the late 1970s, most US universities began considering the potential benefits of strategic management (Keller, 1983). According to Martin (1992), the decline in student enrollment and the limited availability of public resources in higher education were two factors that prompted institutions to explore strategic management. Hence, in times of crisis, SM plays a significant role. A seminal book by George Keller and subsequent works by other scholars highlighted the importance of strategic management in higher education. They argued that SM offers valuable insights into how institutions can navigate future uncertainties and showcased examples of campuses that effectively tackled challenging times through creative strategies (Keller, 1983; Lockwood, 1984; Spitzberg, 1984). Moreover, colleges and universities need to apply modern management concepts to understand and handle the changed circumstances the HIEs face (Lockwood, 1984). However, colleges and universities initially refused to accept modern management and planning ideas and practices for their uses; due to falling enrolments, inflated costs, and shifting academic priorities, strategic management has become increasingly crucial in HEIs (Keller, 1983).

Furthermore, Spitzberg (1984) argued that colleges and universities need strategies for survival and opportunities for improvement consistent with their culture and fundamental principles. Universities often deal with strategic management to get the most out of it. For instance, Lillis (2006) discussed the benefit of strategic management by merging the concept with strategic planning and articulated that strategic planning benefits HEIs by capturing the complexity of the entire organization and directing it toward a coherent direction. This benefit provides a platform to define the unique mission of an HEI, identify competitive advantages, and enhance awareness of, as well as alignment with, the external environment.

Thus, universities can use SM to cope with external pressure, such as increased local and global competition, budget cuts, the desire for quality, and the need for a more systematic approach (Reichert, 2006). In times of crises or uncertainties, higher education institutions can no longer afford to act or react unthinkingly (Eder, 1983); they should respond strategically. As a result, strategic management is becoming part and parcel of modern higher education management (Keller, 1983).

Today's higher education institutions' management demands proactive change, adaptation, positioning, and market orientation to thrive (Martin, 1992). Therefore, strategic management is essential for universities' survival and prosperity, especially in the turbulent

and rapidly changing working environment (Temple, 2018). Global higher education is now facing intense competition due to international pressure. Consequently, universities of all sizes and types compete for talented students, faculties and other limited resources. As a result, winning the competition and maintaining high performance is becoming increasingly challenging (Fumasoli & Hladchenko, 2024). Therefore, public higher education institutions can benefit from strategic management by developing innovative strategies that align with their specific contexts, enabling them to outperform their competitors.

The history of higher education in Ethiopia dates back to the 1950s when the first university college of Addis Ababa was established (Semela, 2006; Yizengaw, 2007). However, higher education expansion remained restricted in towns for an extended period and was criticized as an elite education system (Saint, 2004; World Bank, 2003). Since the last three decades, the expansion of higher education in Ethiopia has increased rapidly. About 46 public universities currently accommodate more than four hundred thousand students in different fields of study. Such expansions of universities demand more resources and, at the same time, the proper management and leadership skills of incumbents. Moreover, the government subsumes the massification of higher education in its mega plan as a strategic priority in achieving the vision of being a middle-income country by 2025 (National Planning Commission, 2016).

Consequently, universities have been given greater responsibilities to play economic and social roles in breaking the vicious circle of poverty (MoE, 2015; National Planning Commission, 2016). As a result, in the trajectory of moving toward being a middle-income country, public universities designed strategies that emanate from the mission and vision to be responsive to the country's demand while being competitive globally. Thus, the intent of strategic management as a management philosophy becomes a vital issue to ensure public universities' competitiveness through the pursuit of excellence in research and teaching-learning.

The practice of strategic management in Ethiopia is a recent phenomenon. The Ethiopian government has emphasized the importance of strategic management in improving organizational efficiency and effectiveness as part of its civil service reforms. The government began reforming public services in 1991 and has undergone several phases of reform. The third phase, which started in 2003, focused on improving service delivery in the public sector. This phase aimed to strengthen public institutions by depoliticizing the civil service, improving managerial effectiveness, and empowering private and civil society organizations and higher education institutions(Tilaye, 2007). As a result of the civil service reform, HEIs, including universities, were compelled to implement strategic planning and management, often referred to as the SM approach, to lead their institutions effectively (Jiru, 2020; Tilaye, 2007).

Recent evidence from the Ethiopian public university suggests that developing a strategic management framework, specifically a comprehensive strategic plan, is necessary for leaders assuming leadership positions (MoE, 2017; MoSHE, 2020). The civil service reform also enforced that all public organizations, including higher education institutions, must develop and implement SM to improve service quality. This includes developing organizational mission, vision, and strategies in their leadership and management practices (Jiru, 2020; Markos, 2013; Tilaye, 2007; World Bank, 2019). This civil service reform has

impacted and changed the orientation of university management. Consequently, this civil service reform has significantly impacted and transformed university management.

Methods

Research Approach and Design

This study was undertaken within the framework of the interpretivist research paradigm and utilized a qualitative research approach. Specifically, a cross-case study design was employed to explore how top-level leaders at Bahir Dar University (BDU), Addis Ababa Science and Technology University (AASTU), and Assosa University (ASTU) understand strategic management.

Sampling

This study was conducted in three universities categorized under the traditional classification of four-generation universities. The three sample universities were purposively selected by considering two extreme cases. One is the first generation, believed to have better experiences, and the other two are newly emerged universities with a certain age gap between them. Consequently, Bahir Dar University represents the first generation, while Assosa University represents the third generation. Addis Ababa Science and Technology University, a university with a distinctive mission, was also included.

Initially, the researchers planned to use a comprehensive sampling technique to include all presidents and vice presidents from each university. This would provide a complete understanding of strategic management practices and perspectives from all top-level leaders. However, due to scheduling conflicts and other commitments, three vice presidents could not participate. For example, at Bahir Dar University, six top-level leaders were selected as primary data sources, but one interviewee could not participate due to a busy schedule. Additionally, the other two vice presidents from ASSTU and ASU were unavailable during the data collection period. As a result, eleven top-level leaders (three presidents and eight vice presidents) were selected using availability sampling techniques. Table 1 summarizes the research participants.

Table 1

Sample Distribution of Participants by University

University	Sex	No. of Participants	Sub-Total	Remark
Bahir Dar University	M	4	5	1 President
	F	1		4 Vice-presidents
Addis Ababa Science and	M	3	3	1 President
Technology University	F	0		2 Vice-presidents
Assosa University	M	3	3	1 President
	F	0		2 Vice-presidents
		Total	11	3 President
				8 Vice-presidents

Regarding educational background, study participants represented diverse academic disciplines such as engineering, science, mathematics, humanities, business, economics, and agriculture. Besides, their experiences in higher education leadership roles, particularly in top management positions, varied significantly, spanning service periods from one and a half years to ten years. Notably, only three leaders received more than three weeks of training programs, while others participated in short-term training lasting from two days to a week on HE leadership.

Data Gathering

As the first step of the research, the pilot study was conducted at Debre Tabor University with one president and one vice president to meet three significant purposes. The first was to find issues and barriers related to recruiting potential participants since this study was primarily designed for top-level public university leaders: presidents and vice presidents. Accordingly, the pilot interviewees' feedback showed that the issues entertained in the study are appropriate to include a president and vice presidents of each case university. The second reason is to determine the time required to conduct an interview. Initially, the interview protocol was designed to take approximately half an hour. During the pilot study, the interview took a minimum of twenty and a maximum of twenty-five minutes. The third result obtained from the pilot helped the researchers avoid too many interview questions. For instance, initially, from the questions that asked the leaders to explain what SM means and what how it differs from other management fads, the latter one was removed in the main study. Finally, two major decisions were made based on the results of the pilot study. The first was to identify questions and thematic areas to help pursue in-depth, one-to-one interviews. Secondly, the interview questions were modified and reduced from eleven to six.

Finally, the researchers conducted a semi-structured interview with the selected participants. After conducting semi-structured interviews with public university leaders, the information obtained from them was transcribed into Amharic, documented as a Word file, and then translated into English for further analysis.

Data Analysis

The data analysis technique employed in this study was thematic analysis. The refined data were entered into Atlas.ti qualitative research software to identify patterns that could inform the extraction of themes. As a result, a total of fifteen codes and eight categories were derived, ultimately leading to the identification and analysis of three overarching themes.

Ethical Considerations

To ensure the anonymity of participants, the researchers assigned distinct codes to each interviewee, ranging from PR1 to PR11. Furthermore, to minimize potential bias, the researchers solicited feedback from professionals in the field regarding both the interview guide and preliminary findings. Additionally, transcribed data were shared with some interviewees to confirm the consistency of their expressed ideas. Of the participants, two confirmed the accuracy of the transcribed data, while others were unable to respond due to time constraints.

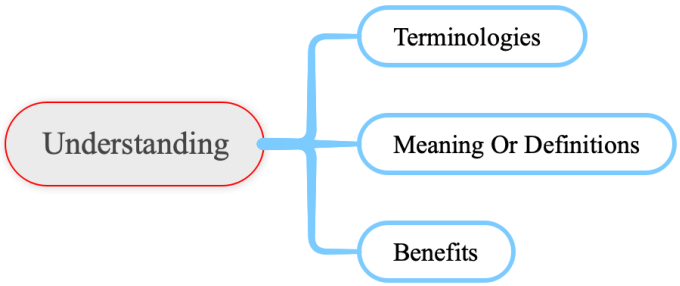
Results

Public University Leaders' Understanding of Strategic Management

The interviewees were asked about their understanding of SM concepts and benefits in the context of higher education. Before they answered the question, the researchers provided them with a common definition of strategic management and asked if they had a similar understanding or if their understanding was specific to their context. Accordingly, all public university leaders agreed that their understanding of strategic management was very similar to the researchers' definition. However, the problem arose when they tried to explain their understanding in more detail. Therefore, after thoroughly analyzing the data, the detailed responses of the leaders were categorized into three main themes: Terminology, Meaning, and Benefit.

Figure 1

Branch out Themes from an Understanding of SM Discourse.



Terminologies Emerged from Leaders' Conceptualization of Strategic Management

While interviewing the respondents, some terms frequently appeared to explain the concept of strategic management. As indicated in Table 2, terms such as 'strategic leadership' [PR4, PR5, PR7, PR8], 'Strategic planning' [PR1, PR2, PR3, PR4, PR5, PR7, PR8, PR9, PR10], 'change management [PR5], 'Transformational leadership' [PR4, PR5], 'Total Quality Management [PR2, PR7, PR8], 'Management Information System' [PR9], 'Strategic Management' [PR6, PR10, PR11] and 'situational Leadership' [PR5] are the common terms used by interviewees while they explained strategic management concepts.

Table 2

Lexical Terms Used by Leaders to Explain Strategic Management

No	Terms	Interviewees		
		BDU	AASTU	ASU
1	Strategic planning	PR1, PR2, PR3, PR4, PR5	PR7, PR8	PR9, PR10
2	Strategic leadership	PR4, PR5	PR7	PR8
3	Transformational leadership	PR4, PR5		
4	Change management	PR5		
5	Total Quality Management	PR2	PR7, PR8	

	(TQM) (Principled Leadership)			
6	Management Information System			PR9
7	Situational leadership	PR5		
8	Strategic management		PR6	PR10, PR11

Meanwhile, interviewees, such as [PR5], used more than four terms: strategic planning, strategic leadership, change management, and transformational leadership, while [PR7] used three terms, such as planning, strategic leadership, and TQM. Some others, such as [PR4], interchangeably employ three terms: strategic leadership, strategic planning, and transformational leadership. Furthermore, others employed two terms, [PR8] strategic planning and TQM and [PR9] strategic planning and management information system. Though different terms were mixed, three participants [PR6, PR10, PR11] often directly referred to SM in their responses. One thing we can see from their explanations is that most interviewees used strategic planning regularly when addressing and discussing the topic of strategic management. Using varied terminologies suggests leaders may have diverse understandings and interpretations of strategic management. This diversity indicates that strategic management concepts might not be uniformly understood or applied within the organization. As a result, using different terminologies of strategic management has spillover effects on the subsequent knowledge of its meanings and benefits.

Leaders' Perceived Meaning of Strategic Management

As previously stated, using several terminologies by public university leaders to convey the SM concept resulted in a wide range of meanings. Viewing strategic management through the lens of different management facets entails leaders connoting diverse definitions for the idea. Consequently, the meaning top leaders at public universities ascribe to strategic management signals having different perspectives and knowledge. Hence, study participants' reflections are presented with sub-themes for a detailed explanation. Accordingly, the following sub-themes amplified the leaders' perceived meaning of SM: SM as a synonym for strategic planning, SM as a tool, and SM as a principle.

Strategic Management as a Synonym for Strategic Planning

Some of the points they raised during the interview indicate that most leaders' definitions and meanings of strategic management describe strategic planning. The following extracts from the leaders' responses are evidence for this argument. For instance, some of the interviewees believed that strategic management is a strategic plan of their institutions and reflected in this way. One interviewee claimed, "… a plan helped envision the future and envisage what the university can achieve [PR1]". Another also reflects, "It is a plan the university is heading to by addressing what to do, how to do it, and what we would eventually achieve [PR2]. Besides, another also claimed, "It is about setting targets to achieve and ensuring we are on the right path towards these targets [PR9]."

Moreover, other interviewees also argued that strategic management is an objective framework for goals, strategies, and tasks. Thus, their ascribed meaning to strategic

management is more like the concept of strategic planning, which is one element of the strategic management process. Therefore, it is worth noting that university leaders have limited insight into strategic management because their perceived meaning is associated with one of its constituents, the strategic plan.

Strategic Management as a Tool

Some leaders also viewed strategic management as a tool that enables the university to control its business by addressing its mission. For instance, some argued that:

> 'SM is …. the 'way' or 'method' or a 'tool' to address the university's missions.' [PR11]
>
> … It is a method an institution determines where to go and how to go there; moreover, it is a means to check its achievement level. … SM is all about control of the businesses.' [PR10]

These interviewees conceived that strategic management is a tool that helps institutions achieve their missions and controls whether the university's business is running effectively and efficiently. Scholars argue that SM is a broad concept that comprises different elements, of which evaluation and control are one part (Wheelen & Hunger, 2012). Hence, only linking strategic management to evaluation and control may result in retaining marginal understanding and conceptual blurring.

Strategic Management as a Principle

Two other study participants gave meaning to strategic management by considering it a management principle. They believed that strategic management is one of the principles that leaders can apply to oversee the institution's overall performance. For instance, some interviewees claim "… that SM is a management principle used to evaluate system performances [PR5], where the top-level leaders are responsible for overseeing these efforts [PR5, PR11]." These leaders emphasized two key aspects of strategic management. Firstly, they described strategic management as a principle that guides system-level performance evaluation. Secondly, they pointed out that top-level leaders are responsible for strategic management.

Leaders' Perceptions of the Benefits of Strategic Management

On the other hand, the case study universities' Leaders have shared valuable insights into the benefits they have gained from being guided by strategic management. The study found that public university leaders benefit substantially from applying strategic management. This includes setting goals, improving operations and resource allocation, expanding international presence, increasing program offerings, evaluating performance, and enhancing leadership capabilities.

Setting Directions

Some interviewees discussed that applying SM in their business gives them a clear sense of direction. Accordingly, some argue, "SM or SP enables the universities to set targets

[PR3] and direction [PR6, PR5]". Moreover, some others state, "SM helped the institution to have a sense of purpose and direction, hold a strategic position, and create a better tomorrow [PR5, PR8]". Besides, one interviewee claims, "SM enables a university to specify its objectives and develop policies and plans to achieve them [PR6]."

These leaders believe that applying SM or SP greatly improves universities' ability to establish clear goals and objectives. By setting specific targets, defining a strategic position, and creating actionable plans, universities can ensure that they are working towards their long-term goals in a structured and efficient way. An institution that establishes a clear sense of direction provides clarity on where to head, ultimately benefiting the overall growth and success of the institution.

Improving Implementation

Some interviewees again explained the benefit their intuitions gained from the strategic management approach. For instance, some interviewees claimed, "Strategic management helped their institutions to execute the mission in a better way [PR1]; it also improved teachers' engagement in conducting research [PR11]." These leaders' reflections implied that their strategy implementation practice improved over time because they followed the SM approach. This can result in more effective operations and a research-oriented academic environment, contributing to the overall success and development of the institution.

Expanding Programs

Some leaders also argued that the current expansions of different undergraduate and postgraduate programs of their universities result from applying strategic management practices and, more importantly, developing a five-year rolling strategic planning. They said:

> SM or SP helped expand undergraduate and postgraduate programs [PR2] … enhanced program diversity and expansion [PR4], … established more research centers. [PR5, PR11].

> One university leader claimed their university's postgraduate programs are expanding due to their adherence to SP practices. These programs expanded and opened over 140 second- and 60 third-degree programs [PR5].

Therefore, leaders believed that applying strategic management or strategic planning, mainly through the development of five-year rolling strategic plans, has significantly contributed to the expansion and diversification of undergraduate and postgraduate programs and the establishment of research centers. This strategic approach has thus enabled universities to enhance their academic portfolio and research capabilities.

Securing a Good Performance

Besides the above explanations, some public university leaders believed that because the strategic planning process governed them, their institutions' performance improved from time to time. More specifically, SM has brought staff harmony to help evaluate their position per the objectives. The following discourses can corroborate this argument.

SM or SP helped us to achieve good performance [PR9],

> … check whether the university is on the right track or not, and take corrective measures, providing an opportunity to learn from the experiences through a rigorous evaluation process [PR8],
>
> … boosted the spirit of harmony among staff …, made objectively verifiable performance measures [PR7], and brought improvements in graduate employability [PR11].

These leaders generally claimed that applying strategic management in a university benefited the institution by having better performance and allowing its staff to create harmonious conditions. They believed that executing SM resulted in substantial returns for their respective institutions.

Mobilizing Resource

On the other hand, other Leaders also argued that applying SM in their management practices benefitted the institutions to enhance human resource development, i.e., academic staff is increasing in number and qualification, and students' profiles are also highly growing [PR1, PR4, PR9, PR11]. Moreover, SM enabled them to attract internationally competitive projects, helped them to generate income, improved the wise use of scarce resources, and allocated resources [PR1, PR2, PR3, PR5, PR6, PR9]. Therefore, according to study participants, SM has effectively contributed to the growth and optimal utilization of institutional resources.

Enhancing Internationalization

Some leaders also discussed how their institutions became more visible internationally. They contended that:

> SM or SP helped their universities attract international students, increase global visibility, improve publication status, and present research outputs in academic forums like international conferences [PR2, PR4].

Therefore, top-level leaders claimed that implementing strategic management or strategic planning has significantly enhanced their universities' internationalization efforts. Consequently, universities governed by strategic plans have played a pivotal role in strengthening these universities' global presence and academic reputation.

Enhancing Leadership Capacity

Some leaders also added that governing by SM or SP helped their universities. The following excerpts epitomize this contention: "…become focused" [PR1, PR6], "… make proactive decisions" [PR6], "…follow a flexible approach" [PR8], and "create a system so that the organization operates smoothly" [PR10].

Therefore, it can be concluded that being guided by SM or SP significantly enhanced the leadership capacity within universities. As a result, SP has contributed to more effective and adaptive leadership, fostering a well-organized and forward-thinking institutional environment and helping them create strategic agility.

Many study participants listed several benefits from strategic management practices. They emphasize that these benefits represent improvements compared to the universities' previous state, indicating progress in performance due to the implementation of strategic management, especially strategic planning approaches. However, they also note that despite these improvements, it remains crucial to address various management issues where the universities are still lagging.

Leaders added that though some efforts were made to live what is in the book (i.e., SP), because of the leader's limited understanding of SM and the staff's limited implementation capacity, more things remained in black and white, implying a more systematic approach to pushing leaders' understanding of SM.

Cross-case Analysis

A cross-case analysis was made of the three cases studied regarding the thematic areas mentioned above. These are terminologies, Meaning, and Benefits.

Terminologies

Some convergent and divergent views of the terminologies have been observed among the three case study universities. Five top-level leaders from BDU participated in this study. The leaders frequently used more than five terminologies to describe and explain strategic management concepts. At AASTU, three top-level leaders were involved in the study. The leaders employed four different terminologies to elaborate their understanding of SM. They sometimes used these terms interchangeably with strategic management. Yet, they frequently used the term strategic management to heighten their conceptual understanding.

Meanwhile, at Assosa University, three high-level leaders participated in this study. Consequently, leaders used three terminologies to explain their conceptual understanding of strategic management. As can be observed from the demographic data of interviewees, all BDU leaders had prior leadership experiences compared to the two other universities' leaders before they assumed the current leadership position. Some were college deans, others held executive director positions, and others served as vice presidents before taking their current roles. These background experiences may help leaders become familiar with various management terminologies because of the exposures they have had before.

Meaning

Top-level public university leaders provided different meanings to strategic management concepts. The meaning they attached to strategic management parallels the terms they used when explaining SM. Bahir Dar University attached more meaning to strategic management than the other universities. AASTU and ASU offered only a few interpretations of strategic management. The case study universities have different interpretations of strategic management. The most common understanding of strategic management across all of them involves SM, which involves planning for the future, deciding on future directions, establishing objectives, assessing performance, and confirming that institutions are headed in the right direction. Moreover, they view strategic management as both a tool and a guiding principle. BDU and AASTU particularly emphasize that strategic

management is a principle that guides the future destiny of the university. On the other hand, ASU sees strategic management as a form of systems thinking where leaders are responsible for its implementation. However, each case university explained the meaning of strategic management using different words; the central theme they discussed was similar to the meaning of strategic planning.

Benefit

Regarding each university's benefit from applying strategic management, all case universities confirmed that SM helped them shape their direction through strategic planning efforts. Moreover, each case university firmly explained that SM benefited their institutions by mobilizing resources. Meanwhile, BDU leaders, focusing on specific performance issues, found that SM helped them expand undergraduate and postgraduate programs and prompted them to consider and work towards internationalization. Conversely, AASTU and ASU aimed to address overall performance issues. Their adherence to strategic management led to continuous improvement in their universities' performance over time.

Overall, the three universities may have different perspectives on the outcomes they achieved by implementing strategic management. However, the most frequently cited advantages they reaped include the ability to establish a clear direction, enhance the execution of strategies, mobilize resources, promote internationalization, expand academic programs, evaluate performance, and develop leadership capabilities.

Discussion

This discussion focuses on the strategic management understanding of leaders in public universities, as presented in the case study. The discussion is aligned with the major themes identified: terminologies, meanings, and benefits. Before leaders do something, they should understand what it is about and what is expected, unless they may not be successful.

Terminologies

The findings revealed that leaders conceptualize strategic management through different terminologies: strategic planning, strategic leadership, change management, transformational leadership, and total quality management. They believe that these terms have similar meanings to SM. Nonetheless, most of the terms they use are specific fundamentals of strategic management. Understanding SM with these specific fundamentals allows them to retain a narrower insight into this broader concept. The discussion hereunder mainly focuses on strategic management, strategic planning, and strategic leadership regarding convergent, divergent, and complementing views.

During the mid-90s, there was a debate about whether strategic plans and strategic management were interchangeable. However, scholars have argued that they are distinct concepts, with SM being broader in scope than SP (Bryson, 2018; Middlewood & Lumby, 1998; Poister & Streib, 1999; Tabatoni et al., 2000). Poister also claimed that “strategic planning is concerned with formulating strategy’’ (Poister, 2010, p.s247), which is just one element of SM. Other scholars, such as Lumby, define strategic management as the

overarching process, which includes strategic thinking, strategic planning, implementation, and review (Lumby, 2002). Strategic planning is the basic building block and, at the same time, the cornerstone of strategic management (Bryson, 2004). Strategic planning can be piecemeal, and strategic management requires more completeness. When leaders understand the difference between strategic planning and strategic management, they become better at both.

Concerning strategic leadership terminology, the confusion of the terms is directly linked to the debate of leadership versus management. This argument has also brought confusion in the conceptual discussion between strategic leadership and management. However, some scholars still perpetuate the debate, and these researchers wanted to adhere to (Bush & Coleman, 2000; Middlewood & Lumby, 1998) their arguments. These scholars mainly see the two concepts in the context of educational institutions. Accordingly, the role of a leader in the strategic management process is crucial. As Middlewood and Lumby (1998) discussed, strategic management is a key leadership task since change and improvement are one of its primary aims. Likewise, other scholars argued that strategic leadership is about achieving sustained competitive advantage. It is the outcome of the strategic management process. It is a state of being rather than a management mechanism. They concluded that strategic leadership does not replace strategic management; it results from it (Macmillan & Tampoe, 2001).

Concerning other terminologies, such as transformational leadership, although respondents believe that strategic management is one aspect of transformational leadership, this leadership style has distinct characteristics from strategic management. Transformational leadership focuses on transforming an organization to the next level where change is needed (Bass & Riggio, 2006). However, the leader's conceptual explanation emphasizes a management philosophy that works in a dynamic and ever-changing world; mixing strategic management with transformational leadership requires careful treatment. While strategic management shares common themes with strategic leadership, change management, transformational leadership, and total quality management, it is distinct in its broader scope and integrative nature. Understanding these similarities and differences is crucial for effectively integrating these concepts to achieve sustainable institutional success in higher education.

Meaning

This study’s findings revealed that the top-level leaders of the case universities interpret strategic management in three fundamental ways: as a strategic plan, a tool, and a principle. These leaders' insights align with and diverge from various perspectives on strategic management discourse. The conception of strategic management as a strategic plan is consistent with the traditional view in management literature. Strategic planning involves setting long-term goals, determining actions to achieve those goals, and mobilizing resources to execute the actions. According to Bryson (2018) strategic planning, it is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it. However, some contemporary scholars like Bryson argue that strategic management goes beyond mere planning.

Viewing strategic management as a tool aligns with the resource-based view of the firm, which sees strategic management tools and frameworks as essential for leveraging organizational resources and capabilities to gain competitive advantage (Barney, 1991). Nonetheless, some literature argues that an over-reliance on tools can lead to a mechanistic view of strategy, ignoring the nuances of human behavior and organizational culture (Whittington, 2006). Strategic tools are beneficial but must be used within the broader context of dynamic and complex organizational environments.

Strategic management as a principle resonates with the fundamental concepts of strategic thinking and strategic leadership. Strategic principles provide a guiding philosophy for decision-making and action within organizations (Dess et al., 2014; Hitt et al., 2016). Some literature emphasizes that strategic principles need to be adaptable to change. The 'strategic agility' concept highlights the importance of flexibility and responsiveness to environmental shifts (Doz & Kosonen, 2008). Strict adherence to fixed principles without adaptation can hinder an organization's ability to navigate uncertainty.

In conclusion, the findings are broadly consistent with established theories in the literature and suggest potential areas for growth. Leaders might benefit from integrating more adaptive and emergent approaches to strategic management, recognizing the importance of flexibility, human factors, and the dynamic nature of higher education environments. This broader perspective can enhance their effectiveness in navigating the complexities of university leadership and management.

Benefits

The study found that public university leaders have benefited from strategic management. This includes setting goals, improving operations and resource allocation, expanding international presence, increasing program offerings, evaluating performance, and enhancing leadership capabilities. These benefits are directly linked to specific elements of strategic management, with some being holistic, such as promoting internationalization and increasing public visibility.

Most of the findings align with those of researchers and practitioners who have emphasized the positive impact of strategic management principles and approaches on organizational growth and success. Strategic management helps institutions gain a competitive advantage and ensure long-term viability (Dess et al., 2014; Hitt et al., 2016). There are two aspects to the benefits organizations gain from strategic management efforts. The first aspect relates to the overall purpose of strategic management, which is to foster growth and prosperity. Organizations must improve their products and services to survive and thrive. Strategic management significantly enhances performance and outcomes (Joyce, 2015). The second aspect is the specific benefits of the strategic management process. According to empirical research, Wheelen and Hunger, (2012) strategic management's three most highly rated benefits are providing a clear strategic vision, enabling a sharper focus on strategic priorities, and enhancing understanding of a rapidly changing environment. Empirical evidence explicitly supports that SM is instrumental in expanding and offering different academic programs, measuring the university’s performance and allocating

resources (Fumasoli & Hladchenko, 2024), promoting internationalization (Knight & De Wit, 2018), and enhancing leadership capacity (Northouse, 2021).

In conclusion, recent literature supports the benefits of strategic management, which university leaders have identified well. However, institutions must balance these benefits with adaptability, innovation, cultural considerations, and a holistic evaluation and leadership development approach. By doing so, they can maximize the advantages of strategic management while navigating the complexities of the higher education landscape.

Conclusions and Implications

Based on the study's findings, public university leaders possessed a somewhat fragmented conceptual understanding of strategic management. Their perspectives tended to emphasize specific facets of strategic management while potentially overlooking other crucial elements. This narrow focus suggests that their grasp of SM may not encompass its entirety, which could impede their ability to formulate comprehensive and cohesive institutional strategies. Furthermore, the study reveals a diversity in the meaning attributed to strategic management among these leaders. This variability in interpretation creates ambiguity within leadership teams and across the institution, potentially leading to disparate visions and strategies that may not align effectively with the institution's overarching goals. Such ambiguity could also hinder the institution's sustainability by fostering unrealistic expectations and strategies that do not adequately address current challenges or opportunities. Despite these challenges in conceptual clarity, public university leaders recognize the benefits of strategic management initiatives. However, the practical application of these benefits may be constrained by the leaders' limited and varied understanding of strategic management concepts. Cross-case analysis results also depicted that while each university has its unique perspective on strategic management outcomes, there is a shared understanding that it is essential for long-term institutional success. The differences in emphasis and application reflect varying institutional contexts and leadership priorities but underscore a common goal of leveraging strategic management to advance their respective missions. These findings underscore the importance of context-specific strategies and leadership experiences in shaping how strategic management is perceived, applied, and leveraged to achieve institutional excellence and sustainability.

Most higher education institution leaders in Ethiopia are appointed without adequate training in leadership and management, relying instead on intuition and others' experiences. There is no structured professional development program to enhance their skills even after they take on leadership roles (MoE, 2015; MoSHE, 2020). This traditional practice has led to poor management and leadership within these institutions. Leaders need a comprehensive understanding of contemporary leadership and management, particularly strategic management in the context of public universities. Therefore, arranging short-term and job-embedded continuous leadership development programs for current and potential university leaders is essential to promote a unified understanding of strategic management concepts. Collaboration and sharing best practices among universities also assist leaders in learning from each other; thus, arranging such a modality is crucial.

This study has important policy implications that suggest the need for increased government support and the allocation of additional resources to enhance strategic management initiatives. Furthermore, it is imperative to establish regulatory frameworks that mandate strategic management practices. Incentives should be introduced to promote excellence in strategic management. Integrating strategic management principles into national higher education policies and fostering research in this domain will significantly enhance Ethiopian public universities' effectiveness and long-term viability.

Study Limitation

This study has limitations that need to be acknowledged. Firstly, the research relies solely on semi-structured interviews. This approach may limit the depth and breadth of the data collected and the robustness of the findings. Secondly, the study is confined to three case study universities, which restricts the generalizability of the results. The insights gained from these institutions may not represent all public universities, limiting the study's conclusiveness for the entire sector. Lastly, the focus is exclusively on top-level leaders responsible for the universities' overall performance. This narrow scope excludes perspectives from other stakeholders, such as faculty, staff, and students, who also play crucial roles in strategic management processes. These limitations suggest that future research adopt a more comprehensive methodological approach, include a broader range of institutions, and gather data from diverse stakeholders to provide a more holistic understanding of strategic management in higher education.

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Parental involvement in preschool education and its contribution to children's developmental outcomes

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Abstract

This study aimed to examine parental involvement in preschool education and its contribution for the developmental outcomes of children. To achieve this purpose, the descriptive survey design was used and data were collected through questionnaire from 88 parent-child dyads selected through systematic random sampling technique from participants in four districts of Yika sub-city, Addis Ababa. The data were analyzed using mean, standard deviation, correlation and regression. The result showed that the level of parental involvement in their children's preschool learning was below the average level on both home-based and preschool-based involvement dimensions. Parental monthly income had a significant and moderate positive relationship with home-based parental involvement. The regression analysis also showed an overall significant positive correlation between parental involvement and academic competence and social skills of children. The regression model illuminated that 36% of the variance in academic competence and 10% of the variance in social skills of children were explained by parental involvement. Therefore, it is concluded that parental involvement in their children's education is minimal and highly influenced by the level of parental monthly income. Besides, parental involvement significantly determines the level of children's academic competence and social skills but is negligible in terms of its association with their problem behavior.

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Introduction

Parents are the main educators and primary stockholders in their children preschool learning. Hence, parental collaboration with teachers in educating children is increasingly accepted as an essential ingredient in early childhood care and education (Jeffries, 2012). This collaboration is viewed in the form of parental involvement or participation in their children learning both at home and at school. Parental involvement in preschool includes a wide range of activities such as helping with homework, and reading with children (Mwirichia, 2013), volunteering in preschool, attending parent-teacher conferences, participating in extended class visits, and helping class activities (Jeffries, 2012; Ondieki, 2012). Parental involvement in the present study is the engagement of parents in their children's preschool learning at home and preschool settings with the intention to support children's educational progress.

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Parental involvement bridges the home and preschool immediate contexts of children (Nokali, Banchman & Votruba-Drzal, 2010) that are crucial for their early development and learning. Thus, it relies on Bronfenbrenner's Ecological Systems Theory which holds that child's development and learning influenced by the multidimensional interconnections of home and preschool contexts (Bronfenbrenner cited in DeWar, 2011).

There are demographic factors determining the level of parental involvement in their children's preschool education. For instance, Hoover-Dempsey and Sandler (as cited in Jeffries, 2012) underscored that socioeconomic status (SES) affects the time and energy parents are able to devote to school involvement, where parents with low SES may not allocate adequate time in order to involve in their children learning activities. Moreover, Maphoso and Mahlo (2014) indicated that parents' involvement in their children's learning is affected by their income and education level. That is, parents with high SES including high level of education and income are capable to create structured learning environment and have high interest to involve in reading activities, urging greater effort to praise indications of progress, and frequently providing rewards. On the other hand, Fantuzzoet al. (2004) found that parental involvement in children learning was not significantly correlated with educational and employment status of parents.

It is important to note that parental involvement in children's education has powerful effects on children's developmental outcomes. According to Harvard Family Research Project (2006), parent involvement has the strongest positive relationship to child outcomes. There are also research findings underscoring the important contribution of parental involvement for children's short-term and long-term developmental outcomes including academic, behavioral, and social. For instance, Jeffries (2012) pinpointed that parents' active involvement in their preschooler's learning improve their academic, behavioral, and social outcomes. Powell, Son, File and San Juan (2010) further specified that parental participation in children education positively associated with children's acquisition of literacy and numeracy skills, social skills, and positive attitude towards school. In line with this, McWayne et al. (2004) maintained that parents' regular contact with the early educational setting promotes the social functioning of children.

A study conducted by Fantuzzo et al. (2004), Nokali et al. (2010) and Taylor et al. (2004) also indicated that home-based and school-based parental involvement is the stronger predictor of children outcomes. That is, parental involvement in home and preschool positively related with children's adjustment to the school environment, cooperation behaviors, pro-social peer play behaviors, motivation to learn, attention, task persistence, receptive vocabulary skills, and lower levels of behavior problems. It was also found out that higher level of parental involvement is associated with higher achievement in science and mathematics (Ademola & Olajumoke, 2009), significantly related to higher social skills and lower rates of problem behaviors (Nokali et al., 2010; Powell et al., 2010). On the contrary, it was found out that parental involvement has no relationship with their children's social competence and learning behaviors (DeWar, 2011), and largely unrelated with academic achievement (Nokali et al., 2010).

In sum, many research findings cited above acknowledged that parents' active involvement in their children education is increasingly and widely viewed as crucial for children multidimensional development. This is because "no one is more influential than

parents in sending signals to their children on the importance of good performance in various school activities through their own examples, assistance and involvement" (Ondieki, 2012, p.2). Due to this reason, parental involvement has become a key component of national educational policies and strategies for early childhood programs in different countries (DeWar, 2011; Fantuzzo et al., 2004). It is also true in Ethiopia, where parents' role in preschool learning is considered as one major pillar for the effective implementation of the national Early Childhood Care and Education (ECCE) policy framework (MoE, MoH, MoWA, 2010a). However, parents' participation in children learning activities is very low (Ayele & Befekadu, 2008; Kurtulmus, 2016; Tirussew et al., 2009).

However, much work was not done and research in this area is generally scanty. Most of the existing global research evidences on parental involvement consider participants in the context of elementary and secondary schools and less attention to preschools. There are few research works conducted in preschools on parental involvement in some parts of Ethiopia like Harar (Tadesse, 2022), Somali region (Beide, Yigzaw& Shine, 2022), and Addis Ababa (Fiseha, 2022). But their research focused on assessing parental views of preschool involvement, status of parental involvement in preschools, and communication of parents with teachers. Studies showing the link between parental demographic profiles and parental involvement; and how parental involvement affects children's developmental outcomes have not got due attention. Hence, conducting research on such issue is vital to cast new light on and provide necessary input to concerned bodies for intervention. Thus, the main purpose of this study is to investigate parental involvement in their children's home-based and preschool-based education and its contribution with children developmental outcomes.

Therefore, throughout the research process, efforts were made to achieve the following three specific research objectives: (1) determine the level of parental involvement in their children preschool education; (2) see the relationship between demographic factors (parental educational level, parental income, number of children, child birth order) and parental involvement in their children's preschool learning; (3) examine the contribution of parental involvement for children developmental outcomes (social skills, problem behaviors, academic competence).

Methods

Research Design

*C*onsidering the research objectives, this study followed quantitative research approach. Specifically, descriptive survey design was used to examine the variables under consideration. This design helps to gather quantitative data at a particular point in time with the intention to describe the variables and determine the prevailing association among them.

Study Site

The study was conducted in Addis Ababa, Yeka sub-city, one of the ten sub-cities of the capital. The sub-city has 13 districts. Of these, the study considers government owned preschools in four districts: 3, 4, 10 and 11. In each district, there is only one government

preschool established in the premise of primary schools. These preschools have all level of programs including nursery, lower kindergarten, and upper kindergarten provided for three years.

The target preschools have their own compound within the premises of primary schools in which they are situated. They are government owned. Amharic is a medium of instruction and communication though children learn English as one major subject.

There are a total of 20 classrooms reserved for children to learn from nursery to upper kindergarten in the study preschools. In addition, there are two sleeping rooms, two coordinators' and two staff offices in all preschools. This means, half of the preschools have no children sleeping rooms, coordinators and staff offices. The total number of children in these preschools is 831 with their age ranging from four to six. Teachers are 34 in number and almost all of them are females certified in the field of ECCE by taking one year training.

The average child-class ratio of the preschools was about 42:1 whereas the average child-teacher ratio in the preschools was about 25:1. The preschools do not charge monthly fee except for registration fee paid at the beginning of every year.

Sampling

The study targeted at lower and upper kindergarten children, and their parents and teachers. This is because children, parents and teachers at this level are believed to be better familiar with the preschool programs. Stratified random sampling and systematic random sampling techniques were employed to select the samples. At the beginning, the four districts and the preschools in the districts and the preschool levels (lower kindergarten and upper kindergarten) were categorized into strata. Then, the researcher involved 152 children and their respective parents (152 child-parent dyads) selected through systematic random sampling procedure from a total 457 targeted children and their respective parents from both categories of the strata. Then, parents of the selected children were written a letter through a letter to come to the preschool by teachers. But, 48 parents were not responsive, and 16 dyads were excluded for the reason that they escaped items in the data collection instruments. That is, 88 child-parent dyads (88 children and 88 parents) participated in the study based on the interest of the parents. Children participants were eligible to be selected in the research after parents filled the instrument.

Table 1

Demographic Information of Participants

Variable	Category	Frequency	Percent
Gender (Children)	Male	47	53.4
	Female	41	46.6
	Total	88	100
Gender (Parents)	Male	26	29.5
	Female	62	70.5
	Total	88	100
Parents' Educational Level	Non-literate	40	45.5
	Primary school level	28	31.8

Variable	Category	Frequency	Percent
	High school level	18	20.5
	Certificate level	1	1.1
	Diploma level	1	1.1
Number of Children in the Home	1-2 children	47	53.5
	3-4 children	32	36.3
	5-6 children	9	10.2
Child Birth Order	First and second	62	70.4
	Third and fourth	19	21.6
	Fifth and above	7	8.0
Parents' Monthly Income	1000 Birr and below	81	92.0
	1001-1500 Birr	6	6.9
	1501 Birr and above	1	1.1

The demographic profiles of the research samples are indicated in Table 1. As depicted in the table, many of parent participants were non-literate and their monthly income was 1000 *Birr* and below. One up to two numbers of children who are first or second born children are found in majority of the participants' home.

Instruments and Data Collection Procedures

Instruments

In order to solicit data about the issue under investigation; an adapted Amharic version questionnaire having three parts was used. The first part contains background information of participants. The second encompasses items concerned with parental involvement whereas the third part constitutes items addressing children's developmental outcomes including social skills, problem behaviors and academic competence.

Family Involvement Questionnaire (FIQ)

It is an instrument used to measure the level of parental involvement in their children's education. An adapted form of FIQ developed by Fantuzzo, Tighe and Childs in (Jeffries, 2012) was employed in this research. The instrument used to measure parental involvement in this research is Likert type consisting 28 items having three point scales representing 0 = never, 1 = sometimes, and 2 = mostly. It has two sub-scales including Home-Based Involvement ([HBI], 13 items; e.g. I spend time with my child working on reading skills) and Preschool-Based Involvement ([PBI], 15 items; e.g. I talk to my child's teacher about my child's accomplishments). HBI measures the engagement of parents in their children's care and education at home whereas PBI measures parents' partaking in preschool related activities. The higher score in the instrument represents better parental participation in their children's education and vice versa. Both sub-scales of parental involvement have acceptable reliability coefficients. For instance, Jeffries (2012) reported that the internal consistency (Cronbach's alpha values) of both HBI and PBI was .85.

Social Skills Rating System (SSRS)

It is a tool developed by Gresham and Elliott in 1990 which is used to evaluate three domains of children's Social Skills, Problem Behaviors, and Academic Competence (Hayner,

1999). SSRS has intended for use with individuals whose age range from 3 to 18 years old. A teacher version of SSRS was adapted to generate the data. The instrument was rated by the lead teachers of children in each classroom since they are close to see every interaction instances of children. It comprises 55 items structured on three scales: social skills (26 items, e.g. invites others to join in activities), problem behaviors (18 items, e.g. gets angry easily), and academic competence (11 items, e.g. easily makes transition from one classroom activity to another) rated on a 3-point scale (i.e. 0 = never, 1 = sometimes, 2 = very often).

The SSRS has been subjected to numerous validation studies and has been shown to be a reliable and valid instrument. As reported by Stuart, Gresham and Elliott (as cited in Hayner, 1999), the internal reliability coefficient of SSRS for the total instrument was .94. The higher score on the social skill and academic competence scales shows positive quality but higher score on problem behavior scale represents the difficulty. Prior to use the instruments, back and forth English-Amharic language translation was made to assure the equivalence of items in both languages.

Before the instruments were used in the actual investigation, pilot test was conducted on 17 child-parent dyads found in two preschools other than the main study sites but with similar characteristics. The result of the Cronbach's Alpha indicated that the reliability coefficient of items for total parental involvement, and sub-scales home-based involvement and preschool-based involvement were .87, .86 and .83 respectively. In addition, the reliability coefficients of the outcome variables were .87, .91, and .93 for social skill, problem behavior and academic competence in respective order.

Data Collection Procedures

Before the commencement of the study, the investigator visited the selected preschools to get introduced and secure willingness of coordinators to participate in the research. After granting the permission, the researcher consulted teacher participants in order to clarify the nature and purpose of the study and obtained verbal informed consent and assurance about their willingness to aid the data collection process. Next, teachers communicate parents of the selected children to come to the preschool to take part in the research. Then, two teachers in each preschool (one in each level of kindergarten) were assigned to read the family involvement questionnaire to parents and record their responses on the questionnaires. These teachers were also responsible to rate a teacher version SSRS questionnaire designed to solicit data about children's developmental outcomes since they were assigned to teach participant children at each level of kindergarten. Clarifications were made promptly to the participants throughout the administration process. This was followed by checking the completeness and consistency of the data. Finally, the distributed questionnaires were collected, arranged, coded and entered in SPSS-Version 23.

Data Analysis

The data collected from the questionnaires were arranged and entered into SPSS-23. Data from the structured questionnaires were analyzed using frequency, percentage, mean, standard deviation, correlation and regression. Frequencies and percentages were utilized to describe the demographic characteristics of the participants whereas mean and standard

deviation were used to determine the level of parental involvement and children developmental outcomes. Spearman rank order correlation coefficient was employed to see the relationship of parental involvement with some demographic variables. Moreover, a number of simple regressions were performed in order to analyze the influence of parental involvement on children developmental outcomes.

Results

Status of Parents' Involvement in their Children's Education

The first objective of the study was to determine the level of parental involvement in their children's preschool education. As it was indicated in the methods part, items of parental involvement were rated on three point scales (0 = never, 1 = sometimes, and 2 = mostly) with 26, 30, and 56 maximum expected scores for HBI, PBI, and total parental involvement scales respectively.

Table 2

Level of Parental Involvement in Children Preschool Education (n = 88)

Variables	Min.	Max.	Total Score on the Scale	M	SD
Home-based involvement	5.00	29.00	26.00	12.80	4.56
Preschool-based involvement	1.00	21.00	30.00	11.28	4.24
Total parental involvement	10.00	41.00	56.00	24.08	6.81

Note. Min. = Minimum; Max. = Maximum

As depicted in Table 2, the mean values of the participant parents were 12.80 (*SD*=4.56), 11.28 (*SD*=4.24), and 24.08*(SD*=4.56) on HBI, PBI, and total parental involvement in their order. This means, the mean scores were below the average on the total scale and sub-scales of parental involvement measure.

Relationship of some Demographic Variables with Parental Involvement

In an attempt to see the correlation between some demographic factors and parental involvement in their children's preschool learning, Spearman rank order correlation coefficient was calculated and the results are depicted in Table 3.

Table 3

Bivariate Correlation Matrix of Parental Involvement by Demographic Variables (n = 88)

Variables		1	2	3	4	5	6
1	Parent's educational level						
2	Number of children	-.10					
3	Parental monthly income	.44**	-.04				
4	Child birth order	-.14	.83**	-.06			
5	Home-based parental involvement	.16	-.10	.30**	-.08		

Variables		1	2	3	4	5	6
6	Preschool-based parental involvement	.03	-.11	.07	-.06	.20	
7	Overall parental involvement	.12	-.13	.25*	-.06	.80**	.76**

Note. * $p < 0.05$ (2-tailed), ** $p < 0.01$(2-tailed)

The inter-correlation matrix shown in Table 3 revealed that parental monthly income was positively and significantly correlated with overall parental involvement ($r = .25$, $p < 0.05$) and home-based involvement dimension ($r = .30$, $p < 0.01$). That is, parental home involvement in their children's learning has intermediate positive and significant correlation with the level of their monthly income. It was also true that educational level and monthly income have moderate and significant positive correlation, whereas child birth order has significantly strong positive relationship with number of children. Similarly, the total parental involvement measure has statistically strong positive correlation with its sub-scales, i.e., HBI and PBI.

The Influence of Parental Involvement on Children's Developmental Outcomes

The last objective of this study was to see the contribution of parental involvement for children's developmental outcomes. To meet this purpose, teachers filled out an instrument consisting of items measuring social skills, problem behaviors, and academic competence of children which were rated on a three point scale (i.e. 0 = never, 1 = sometimes, 2 = very often).

Table 4

The Level of Children Social Skill, Problem Behavior, and Academic Competence (n=88)

Variables	Min.	Max.	Total Score on the Scale	M	SD
Social skill	17.00	39.00	52.00	28.08	5.92
Problem behavior	0.00	18.00	36.00	7.49	4.52
Academic competence	2.00	20.00	30.00	14.09	3.37

Note. Min. = Minimum; Max. = Maximum

The result of descriptive statistics in Table 4 shows that the mean score of children on social skills was M=28.08withSD=5.92 and mean score for academic competence was M=14.09 with SD=3.37 out of the 52 and 30 maximum scores on the scale, respectively. That is, the mean values of children on these dimensions of development concentrated around the mid-point of the scales. On the other hand, the mean scores of children's problem behavior (M=7.49, SD=4.52) was almost five times below the maximum expected score (i.e. 36) on the scale. This means children were not showing problem behaviors.

Table 5

Regression Analysis of Parental Involvement with Developmental Outcome Domains

Dependent Variables	R	R^2	F	B	β	t
Social skill	.31	.10	9.28*	.27	.31	3.05*
Problem behavior	-.02	.00	.05	-.02	-.03	-.23
Academic competence	.60	.36	47.38*	.30	.60	6.88*

Note. **p*<.05, *n* = 88.

Looking into Table 5, the simple regression coefficient revealed that parental involvement significantly related with academic competence of children $F(1,86) = 47.38$, $p< 0.05$. The multiple correlation coefficient of academic competence was .60, and approximately 36% of the variance in children's academic competence accounted for only by parental involvement in their children's preschool education. In addition, when parental involvement enter in to the regression model, its correlation coefficient was .31 and explains 10% of the variance in social skills of children $F(1,86) = 9.28$, $p< 0.05$. But parental involvement in their preschooler's learning had statistically non-significant negative correlation with problem behavior of children and it explains very small percent of the variance in children's problem behavior.

Discussion

The result of the current study demonstrated that parental involvement in their children's education both in home-based and preschool-based activities was below the average of the expected score on the scale. This is consistent with the previous research findings of Ayele and Befekadu (2008), Kurtulmus (2016), and Tirussew et al. (2009).This may be due to low level of parental education that possibly makes them less aware about the importance of their participation in children's preschool education. These parents also have low level of income and are primarily engaged in daily labor activities in order to fulfill the basic needs of the family. This compromise the time parents allocate to activities helpful for children's learning.

Of the demographic factors considered in the current study, only parental monthly income had intermediate and statically significant positive relationship with overall parental involvement and HBI dimension. That is, as the level of parent's monthly income increases, it considerably enhances the participation of parents in their children's learning activities at home. This could be explained in that, when parents have better level of monthly income, they will better fulfill play materials that further help them to engage in their children's learning. This finding is consistent with Maphoso and Mahlo (2014) which revealed that high level of parents' income positively affects their involvement in children's learning.

But, in this study, income had very weak positive and non-significant correlation with PBI. This shows that the significant relationship observed on total parental involvement with parent's monthly income was due to its significant relationship with HBI. However, the level of parental involvement did not significantly relate with parent's educational level, number of children, child birth order. This could be attributed to small differences among parents in

their level of education. Above 77% of parent participants in the study were either non-literate or attended only up to primary education. Similarly, most children were found in one category, i.e. at the bottom (see Table 1).That is, many parents had one to two children (53.5%) with first or second in birth order (70.4%). Regarding educational level of parents, the present research finding deviates from Maphoso and Mahlo (2014), but it coincides with the finding of Fantuzzoet al. (2004), who ascertained that parental involvement in children learning was not significantly related to educational and employment level of parents. This may be due to the difference in research setting and the characteristics of data sources. For instance, the study by Maphoso and Mahlo was conducted in boarding schools and measuring only academic achievement whereas the current research sites were in government owned preschools and measuring social skills, academic competence and problem behaviors.

The data also revealed that parental involvement had significant moderate correlation with both children's academic competence and social skills. Parental involvement in their children education also explains 36% and 10% of the variances in academic competence and social skills, respectively. One of the possible reasons for small percentage of variance in social skills as explained by parental involvement may be due to the fact that children are found at the stage of 'play age' where they prefer to interact with their peers than parents. These findings deviate from the work of DeWar (2011) and Nokali et al. (2010) who found out that parental involvement has no relationship with their children's social competence and academic achievement.

However, in agreement with the findings of the present study, a substantial body of research (eg. Ademola & Olajumoke, 2009; Fantuzzo et al., 2004; Harvard Family Research Project, 2006; Jeffries, 2012; McWayne et al., 2004; Nokali et al., 2010; Powell et al., 2010; Taylor et al., 2004) pointed out that parental active involvement in their children's education has strong positive relationship and strong predictor of child outcomes. These research results maintained that parental involvement improves academic achievement, social skills and problem behaviors of their preschool children. When we single out the contribution of parental involvement in their children's education for improving children's behavior, contrary to the previous studies, the current research result disclosed the presence of very weak negative correlation, and parental involvement has very minimal contribution for reducing problem behaviors of children. This may be attributed to minimal level of problem behavior observed in children as older siblings, relatives, neighbors, and the communities as a whole are responsible to correct the misbehaviors of children. Because, in collective community like presumably the case in Ethiopia; everyone is responsive to child disciplines. This presumption needs further investigation.

Conclusions and Recommendations

The status of parental involvement in their children home-based and preschool-based education activities is below the average of the scale values. This is due to low level of parental education, awareness and income. Though the status of parental involvement is not at the expected level, the presence of such practice is important to improve the academic competence (30%) and social skills (10%) of preschool children. Children's education is a shared venture; hence, parents should be preschool partners and work collaboratively with

teachers for the benefit of their children. Thus, it is recommended that preschools should be responsible to raise the awareness of parents about the importance of their involvement in children educational activities by inviting them to take part in different events (during children registration, welcoming day, holidays, parent days, children graduations), regular meetings, volunteering activities, training and discussion programs. Establishing and strengthening parent-teacher associations is also very vital to enhance the active participation of parents in their children's education.

The level of parental involvement in their children's preschool education was positively related to the level of parental monthly income. As the level of parent's monthly income increases, it enhances the participation of parents in their children's learning activities. Therefore, it is recommended that preschool teachers are highly expected to give advice for parents to allocate time and support their children's learning especially during the night and at weekends when they are off from their work. In the long run, the city government would also be responsible to nominate low income parents and make them beneficial targets of the safety-net program and involve them in income generating activities.

Limitations of the Study

The research site for this study, i.e. the sub-city, was selected purposefully and data were collected from a limited number and group of participants using only questionnaire. In addition, parents provided data with the help of teachers that may affect them to give reliable information about their involvement in children's preschool education. These may limit to provide accurate picture of the issue under investigation in broader perspective. Therefore, the results cannot be generalized to the other sub-cities. Thus, it is suggested that future studies in similar area could consider more preschools, large number and group of participants including teachers, parents, children, and officials using more numbers of instruments for triangulation and generalizability.

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Factors affecting teachers' practices of inclusive instructional strategies in teaching students with visual impairments in schools of Addis Ababa, Ethiopia

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Abstract

This study aimed to investigate factors affecting teachers' practice of inclusive instructional strategies in teaching students with visual impairments (SVI) in regular schools of Addis Ababa. The study employed a quantitative methodology, with cross-sectional survey design. Data was gathered, using a survey questionnaire, from 421 teachers from 19 primary and 15 secondary schools. A hierarchical multiple linear regression analysis was used to examine the influence of knowledge, self-efficacy & attitudes on the practice of inclusive instruction strategies in teaching SVI in regular schools. The outcomes indicated that teachers had the required knowledge about inclusive instruction strategies. Conversely, a moderate level of teachers' self-efficacy (M=3.00, SD=1.01) in teaching SVI and favorable attitudes towards inclusion of SVI (M=3.92, SD=0.64) were found in this study. Similarly, this study demonstrated a moderate level of teachers' practice of inclusive instruction strategies in teaching SVI (M=2.69 out of 4, SD=0.83). Teachers' self-efficacy and attitude were found to be significant predictors of practice, while knowledge was not a significant predictor. Self-efficacy accounted for 25.5% of the variance in practice, which was the most significant predictor of practice. All the independent variables together explained 31.4% of the variance in practice. Conclusion and possible implications for practice were indicated.

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Introduction

Over time, the idea of universal education has changed globally, embracing a variety of strategies for addressing the needs of children with disabilities and special educational needs. Offering instruction in both segregated and integrated situations was one of the strategies employed for children with disabilities and special educational needs. According to UNESCO (2018), students with disabilities seldom interact with students without disabilities in both settings, and they typically do not have access to the national curriculum. Through time, these approaches were challenged to move towards including children with disabilities in the regular schools as it can provide learning opportunities, within the regular school system, for those groups who have been excluded in the past. The goal of inclusive education

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is to ensure that every child is able to attend local school with same learning opportunities as their peers, and participate in the academic and social activities in the classroom (Martínez & Porter, 2020). Scholars such as Symes and Humphrey (2012) and Wapling (2016) have emphasized the need of providing quality inclusive education that values each student's presence regardless of their needs or disabilities and promotes their active participation and acceptance by peers and teachers.

Teachers are identified as key factors in determining the success of inclusive education (Ackah-Jnr, 2010; Cate et al., 2018; Miyauchi, 2020; Voltz et al, 2001). But they can also be significant obstacles if they don't understand inclusion, don't support it, lack the necessary skills, or have a negative attitude towards inclusive education (Ackah-Jnr, 2010; Lamichhane, 2017; Rieser, 2012). Previous research revealed that a number of teacher-related factors, such as teachers' lack of confidence in their ability to manage students with disabilities (Gray, 2009), regular class teachers' lack of training (Cate et al., 2018; Zagona et al., 2017), and rigid teaching strategies in classroom instruction posed challenges to the success of inclusive education. Moreover, Blecker and Boakes (2010) suggested that the attitudes and knowledge of teachers are the core professional competencies that can influence the implementation of inclusive educational practices at schools. Mu et al. (2015) also indicated attitude and knowledge as the main pillars of professional competence of inclusive education teachers. Along with their attitudes, teachers' self-efficacy beliefs have also been found to be crucial for inclusive education (Savolainen et al., 2022; Werner et al., 2021). The significance of teachers' self-efficacy in meeting the diverse needs of students in inclusive education was also emphasised by Tseeke (2021). This study, therefore, examined how teachers' knowledge, self-efficacy and attitudes influence their practices of inclusive instruction in teaching students with visual impairment (SVI) in regular primary and secondary schools at Addis Ababa, Ethiopia.

Problem Statement

Prior studies on the education of SVI in Ethiopia have primarily described the challenges they face in inclusive education environments. Studies by Arkato (2004), Molla (2007), Bantyrgu (2014), Hadgu (2015), and Ayalew (2020), for example, examined the educational and psychosocial difficulties that SVI encountered in regular schools. Gebru (2015) emphasized the difficulties in addressing the needs of SVI in Ethiopian national examinations. Debele (2021) evaluated the readiness of schools to educate these students noting challenges such as teachers' lack of knowledge about students' need, shortage of educational materials in braille, negative attitude of teachers, and poor physical environments. Similar findings on the social isolation and withdrawal of SVI, as well as the unfavorable attitudes of teachers and sighted students towards SVI, were previously documented by Abichu (2015). Furthermore, a study conducted by Rachel (2016) emphasizes that teachers lack inclusive education strategies to address SVI in regular schools. Studies conducted locally have shown that teachers are not proficient in handling SVI in regular schools; they are also unable to modify their teaching strategies to address the needs of SVI (Abera, 2017; Arkato, 2004; Bidika, 2014). Additionally, other studies indicate that many

schools' physical layouts are inhospitable to students who have visual impairments (Arkato, 2004; Mekurya, 2014).

The majority of local studies that have been conducted so far have been descriptive in nature, failing to indicate how teachers' professional competencies—such as knowledge, self-efficacy, and attitude—affect the practice of inclusion of SVI in regular schools. Additionally, these studies do not statistically demonstrate the relationship between the variables under investigation. Therefore, this study focused on teachers' practices of inclusion of SVI, through utilizing disability specific instruction strategies, and factors influencing it, such as knowledge, attitude, and self-efficacy.

In this study, teachers' knowledge refers to their understanding of the inclusive instruction strategies used to teach SVI; their attitude refers to their stance on inclusion of SVI in regular schools; and their self-efficacy refers to their belief in their ability to teach SVI. In a similar manner, practice refers to teachers' use of disability-specific teaching strategies in teaching SVI in regular schools. The strategies could be preparing alternative assignments or activities aligned with the needs of SVI, speaking clearly and facing the class while speaking, simultaneously saying and writing on black- or whiteboard, using tactile and concrete materials while teaching SVI, and other instructional activities. Therefore, teachers' knowledge, self-efficacy and attitudes served as factors that determined teachers' practices of inclusive instruction strategies in teaching SVI in regular primary and secondary schools of Addis Ababa. The findings of the study is expected to add substantially to our understanding regarding the relationship between the study variables and also support ongoing efforts of including SVI in regular schools.

The main purpose of this study is to investigate the factors that affect teachers' practice of inclusive instructional strategies in teaching SVI in regular schools. In light of this purpose, the study is organized into the following research questions: (1) What is the level of teachers' a) understanding of disability-specific inclusive instructional strategies employed in teaching SWI; b) attitudes toward the inclusion of students with visual impairments in regular schools; c) self-efficacy in teaching SVI; and d) practice of inclusive instructional strategies in teaching SVI in regular schools? (2) How do the above factors—understanding, attitudes, and self-efficacy—influence teachers' practice of inclusive instructional strategies in teaching SVI in regular schools?

Methods

Approach and Design

The study employed a quantitative methodology, collecting data from study participants through the use of a cross-sectional survey design. According to Creswell and Creswell (2018), this type of study design uses structured interviews or questionnaires to collect data from a sample of the population with the goal of extrapolating findings from the sample to the entire population. This allows researchers to describe trends, attitudes, or opinions of the population quantitatively or numerically.

Sample and Sampling Techniques

The sample size for the study was calculated based on the formula developed by Yamane (1973) using a 95% confidence level. According to the education statistics annual abstract of Addis Ababa city administration education bureau, there are 12,535 primary school teachers and 5,423 secondary school teachers in government schools of Addis Ababa (AACAEB, 2020). Using the above formula, the sample size determined for school teachers comes to be 388. The study considered additional of 10% of sample size for any attrition during the study.

A multi-stage sampling technique was applied to select teachers from primary and secondary schools of Addis Ababa. Enrollment of SVI served as the inclusion criterion for selection of sub-cities and schools. First, eight sub-cities were randomly selected out of the total available eleven sub-cities of Addis Ababa. Then, three primary and three secondary schools that enrolled SVI were randomly selected for data collection from each of the Akaki-Kality, Gullele, Kolfe-keranyo, Lideta and Yeka sub-cities. Two primary schools from Arada, one secondary school from Kirkos and one primary school from Addis Ketema sub-cities were randomly picked using a lottery method. So, accordingly, teachers were drawn from nineteen primary and fifteen secondary schools. Following the preparation of the sampling frame in cooperation with the principals of the sampled schools, teachers were finally selected at random using the lottery method. A list of the teachers teaching SVI in the sampled schools, during the data collection period, was included in the sampling frame.

Instruments

In a descriptive-survey research, a survey or questionnaire is considered as main tool to collect data (Lodico, Spaulding & Voegtle, 2006). In this study, survey questionnaire is prepared to gather data from primary and secondary school teachers teaching SVI. The survey questionnaire was prepared after extensive review of related literature. Teachers' survey questionnaires were used to gather the following data.

Through the use of the survey questionnaire, background data of the respondents was gathered, including their sex, years of teaching experience, educational background, and training in Special Needs Education (SNE) /Inclusive Education (IE). Moreover, it was used to assess knowledge, self-efficacy, attitude and practice of teachers with regard to inclusion of SVI in regular schools.

The subscale 'knowledge' consists of eighteen items with a dichotomous True or False options assessing teachers' understanding on inclusive instructional strategies that could be used in teaching SVI in regular schools. Example of these items includes 'Students with visual impairments require additional time to complete assignments'. The items were stated as true statements with possible minimum and maximum scores between zero and eighteen.

With regard to self-efficacy, nine items that gauge perceived capabilities of teachers in teaching SVI in regular schools were included. A five-point Likert scale was used to rate the items. That is, a score of 5, 4, 3, 2, and 1 was respectively designated for strongly agree, agree, undecided, disagree, and strongly disagree.

The 'attitudes' subscale consisted of sixteen items that measure teachers' attitudes towards the inclusion of SVI in regular schools. A Likert five-point scale was employed: 1 is strongly disagree, 2 is disagree, 3 is uncertain, 4 is agree, and 5 is strongly agree. Concerning practice, twenty-eight items were used to assess the extent to which teachers employed disability-specific inclusive instructional strategies to teach SVI in regular schools. These items described specific teaching techniques used to teach SVI, such as 'I prepare alternative assignments/ activities that fits with the needs of students with visual impairments', 'I speak clearly and face the class when I speak', 'I simultaneously say and write on black- or whiteboard', 'I use tactile and concrete materials to teach SVI.' A five-point Likert scale was used for ratings responses to this subscale: 0 is never, 1 is seldom, 2 is sometimes, 3 is very often, and 4 is always.

Validity and Reliability of Instruments

The authors of this study reviewed related literature and prepared a survey questionnaire to assess knowledge, self-efficacy, attitude and practice of teachers with regard to inclusion of SVI in regular schools. Polit and Beck (2006) suggested undertaking a rigorous scale development procedure to validate new scales like the case in the current study. Accordingly, they suggest undertaking content validity index for items (I-CVI) and content validity index for scales (S-CVI). A panel of six subject matter experts was selected for this study, and they used a four-point scoring system to assess each prepared item for relevance and clarity. To judge relevance of items in the construct, the four-point ordinal rating scale used was: 1= the item is not relevant to the measured domain, 2= the item is somewhat relevant to the measured domain, 3= the item is quite relevant to the measured domain and 4= the item is highly relevant to the measured domain. For clarity, the scale constituted: 1= the item is not clear, 2= the item needs major revision to be clear, 3= the item needs minor revision to be clear, and 4= the item is clear. The practice subscale's content validity index (I-CVI) runs from 0.5 to 1.0, whereas the knowledge, self-efficacy, and attitude subscales' content validity indexes vary from 0.67 to 1.0. Accordingly, 14 of the 92 items that were originally included in the survey questionnaire were deleted as a result of this procedure. The minimum accepted standard of I-CVI used for decision was 0.83 (Lynn, 1986). The S-CVI/Ave was also found to be more than 0.8, which is considered as an acceptable standard by scholars like Polit and Beck (2006).

A pilot study was conducted with 67 teachers from two elementary schools and four secondary schools in Addis Ababa to test the improved scale. The data was analyzed using SPSS to check the internal consistency using Cronbach's alpha. Four items from the knowledge subscale and three from the practice subscale were removed from the survey questionnaire based on the calculated psychometric characteristics.

Cronbach's alpha coefficient is one of the most commonly used methods of verifying internal consistency of items in a scale. In this study, the Cronbach's alpha coefficient for knowledge, self-efficacy, attitude and practice constructs resulted in 0.70, 0.916, 0.868, and 0.955, respectively, suggesting that the items in the constructs were internally consistent (Cohen, Manion & Morion, 2017).

Data Collection Procedures

The Institutional Review Board (IRB) assessed the research proposal on its relevance, methodological and ethical procedures. An IRB decision letter, with a reference number of CEBS-IRC-01/2022, was obtained to proceed with the study.

Six education supervisors from various sub-cities were selected by the researchers to support the quantitative data collection. These supervisors received orientation on the purpose of the study, the survey instrument, and the ethical issues surrounding the data collection. While data collectors were taking data at schools, the researchers performed on-site checks to improve the quality of the data gathered. Permission was secured from the respective school principals and verbal consent was established from the school teachers. Teachers were made aware of the study's objectives, respondent anonymity, and response confidentiality.

Data Analysis

The data was coded and analyzed using SPSS 20 software. Descriptive statistics was conducted regarding sex, educational qualification, teaching experience and status of training on SNE/IE. Moreover, descriptive statistics, including mean and standard deviation, was generated for the knowledge, self-efficacy, attitude and practice subscales. A correlation test was used to determine the strength and the direction of relationship among the study variables. A hierarchical multiple linear regression test was used to control the impact of background variables such as sex, years of experience, educational background, and training on SNE/IE in order to investigate the effects of knowledge, self-efficacy, and attitude on teachers' practice of inclusive instruction strategies in teaching SVI in regular schools. Tests for multicollinearity and normality were performed to assess statistical assumptions of the instrument.

Results

This study was designed to investigate factors affecting teachers' practice of inclusive instruction strategies in teaching SVI in regular schools of Addis Ababa. The following table presents the demographic characteristics of the respondents.

Table 1

Demographic Characteristics of School Teachers

Demographic Characteristics	Classification	n	%
Sex	Male	195	46.3
	Female	213	50.6
	Missing	13	3.1
	Total	421	100.0
Current educational qualification	Certificate	7	1.7
	Diploma	78	18.5
	B.Sc./B.A./B.Ed.	263	62.5
	M.A./M.Sc./M.Ed.	73	17.3
	Total	421	100.0

Demographic Characteristics	Classification	n	%
Have you taken courses on SNE or IE at college/university level?	Yes	297	70.5
	No	124	29.5
	Total	421	100.0
Have you received on-job training on SNE or IE?	Yes	242	57.5
	No	179	42.5
	Total	421	100.0
Teaching Experience in years	5 Years and less	51	12.1
	More than 5 Years	364	86.5
	Missing	6	1.4
	Total	421	100.0
	Mean=12.02, SD= 6.94		

Source: survey questionnaire

As shown in Table 1, a total of 421 teachers (58.4%) from primary schools and the remaining (41.6%) from high schools of Addis Ababa took part in the study. It appears from Table 1 that half of the teachers approached for data collection were female, while male teachers constituted 46.3% of the sample. In terms of their educational qualification, 62.5% of them possessed first degree while second degree holders constituted 17.3% of the sampled teachers. The remaining 18.5% of teachers were diploma holders and 1.7% were having qualification at certificate level. High proportion of school teachers (70.5%) indicated that they took SNE or IE courses at college or university level. As can be seen from the same table, 42.5% of teachers have not received on-job training on SNE or IE. As far as their experience is concerned, the great majority of teachers (86.5%) have more than 5 years of teaching experience while the average is 12 years.

Table 2 presents the descriptive statistics, reliability and inter-correlation among the variables of the study. The table shows that practice is positively correlated with self-efficacy ($r = 0.542$, $p < 0.01$) and attitude ($r = 0.284$, $p < 0.01$), but the correlation with knowledge is not statistically significant ($r = 0.077$, $p > 0.05$).

Status of the Constructs Measured

Table 2

Descriptive statistics, reliability and correlations of study variables (N=421)

Variable	Mean	SD	1	2	3	4
1. Knowledge	16.44	2.01	-			
2. Self-efficacy	27.02	9.12	.106*	-		
3. Attitude	62.87	10.14	.178**	.317**	-	
4. Practice	75.43	23.35	.077	.542**	.284**	-
No of Items			18	9	16	28
Reliability (Alpha)			0.700	0.916	0.868	0.955

Note: * $p < .05$, ** $p < .01$

The mean score of teachers' responses on the self-efficacy subscales 3.00, which implies a moderate self-efficacy. In terms of attitudes, the mean score value of 3.92 suggests that teachers have relatively positive attitude towards the inclusion of SVI in regular schools.

Regarding the practice subscale, a mean value of 2.69 indicates above average level of practice of the inclusive instructional strategies while teaching SVI at the schools. However, it needs to be noted that some strategies were practiced more frequently than other strategies by school teachers. For instance, some of the strategies that were 'never' practiced by relatively high proportion of teachers include using tactile and concrete materials to teach SVI and using audio equipment for teaching.

Predicting Practice from knowledge, Self-efficacy and Attitudes

Preliminary analyses were undertaken in order to validate the pertinent underlying assumptions prior to conducting the hierarchical multiple linear regression test. As suggested by Tabachnick and Fidell (2013), assumptions of normality, linearity and homoscedasticity were satisfied. Examining at the correlations presented in Table 2, independent variables were not highly correlated with each other in which multicollinearity was unlikely to be a problem (Tabachnick & Fidell, 2013). Moreover, the variance inflation factors (VIFs) were found to be within the acceptable range, value under 10, as suggested by Ross and Willson (2017). The dependent variable, practice, has skewness and kurtosis values of -0.558 and -0.253, respectively. As Cohen, Manion, and Morion (2017) stated, these values are within an acceptable range of normal distribution of data.

A four stage hierarchical multiple regression test was conducted using practice as the dependent variable, and knowledge, self-efficacy and attitude as predictor variables after controlling for the demographic profiles of teachers (sex, educational qualification, teaching experience and training on SNE/IE). The demographic variables were entered in the first stage of the hierarchical multiple regression to explore their effect on the teachers' practice of inclusive instructional strategies in teaching SVI in regular schools. Cohen and Cohen (1983) indicated demographic variables as good candidates for initial step entry in to the model. Subsequent stages introduced a new predictor variable to previous models' existing predictor variables. Literatures were consulted to decide the order of entry of the remaining independent variables. The knowledge variable was entered at stage 2, self-efficacy at stage three and attitude at stage four. Table 3 presents the summary of the hierarchical multiple regression statistics.

Table 3

Summary of Hierarchical Multiple Regression Analysis for Variables Predicting Practice

Variable	R	R^2	ΔR^2	B	SE	β	t
Step 1	0.201	0.040	0.040				
Sex				-2.382	2.342	-.051	-1.017
Educational Qualification				-.789	1.967	-.020	-.401
Teaching Experience				2.397	3.612	.033	.664
Training on SNE/IE				11.566	2.980	-191***	3.881
Step 2	0.209	0.044	0.003				
Sex				-2.691	2.355	-.057	-1.143
Educational Qualification				-.780	1.966	-.020	-.397
Teaching Experience				2.388	3.610	.033	.661
Training on SNE/IE				11.441	2.980	.189***	3.839
Knowledge				.685	.572	.059	1.197

Variable	R	R^2	ΔR^2	B	SE	β	t
Step 3	0.547	0.299	0.255				
Sex				-3.363	2.020	-.072	-1.665
Educational Qualification				-1.450	1.687	-.038	-.859
Teaching Experience				3.542	3.097	.049	1.144
Training on SNE/IE				4.465	2.621	.074	1.704
Knowledge				.180	.493	.016	.366
Self-efficacy				1.338	.112	.521***	11.986
Step 4	0.560	0.314	0.015				
Sex				-3.489	2.001	-.074	-1.743
Educational Qualification				-1.373	1.671	-.036	-.822
Teaching Experience				3.795	3.069	.053	1.237
Training on SNE/IE				3.881	2.603	.064	1.491
Knowledge				-.054	.494	-.005	-.109
Self-efficacy				1.237	.116	.481***	10.679
Attitude				.320	.109	.132**	2.931

Note. $N = 421$;**$p < .01$, ***$p < .001$

The hierarchical multiple regression revealed that at stage one, the demographic characteristics of teachers (sex, educational qualification, teaching experience, and training on SNE/IE) contributed significantly to the regression model, (F (4,397) = 4.167, $p < .01$) and accounted for 4.0% of the variance in practice. Introducing the knowledge construct at stage two explained an additional 0.3% of variation in practice, and this change in R^2 was not significant, $F\Delta$ (1,396) = 1.433, $p>0.05$. Adding self-efficacy to the regression model explained an additional 25.5% of the variance in practice and this change in R^2 was significant, $F\Delta$ (1,395) = 143.668, $p < .001$. Finally, the addition of attitude to the regression model explained an additional 1.5% of the variance in practice and this change in R^2 square was significant (ΔF (1,394) = 8.593, $p < .01$). Only self-efficacy and attitude were significant predictors of practice when all the independent variables were incorporated into stage four of the regression model. The most important predictor of practice was self-efficacy (β=.481, p<.001), which uniquely explained 25.5% of the variance in practice. Together all the independent variables accounted for 31.4% of the variance in practice.

Discussion

The purpose of this study is to assess factors affecting teachers' practice of inclusive instructional strategies in teaching SVI in regular schools of Addis Ababa. Survey items were prepared and validated before assessing responses of teachers on the outcome and the predicting variables. To the best of the authors' knowledge, most of the previously conducted studies documented the effect of knowledge, self-efficacy and attitude of teachers on their inclusive practices considering inclusive education as an umbrella, not particularly focusing on the inclusion of SVI. To this end, the researchers have used previous studies that explained the relationship between the variables of interest in the general inclusive education settings as well as those limited studies conducted on teacher related factors affecting the inclusion of SVI in inclusive education at regular schools.

Mu et al. (2015) underscored that knowledge is one of the professional competences of teachers related to effective teaching approaches. In the current study, teachers have good understanding of the inclusive instruction strategies that could be used in teaching SVI in inclusive education. This finding is consistent with that of a local study conducted by Moti et al. (2018) in which teachers in Nekemte town primary schools were reported to have moderate knowledge about inclusive education. The finding contradicts with the study conducted in Lesotho by Mosia (2014) which revealed that teachers lack understanding about what constitutes an inclusive education.

This study indicated that teachers have above average perceived capability (self-efficacy) to implement the inclusive instruction strategies used in teaching SVI in inclusive education. This outcome is consistent with the findings of a meta-analytical study by Kuyini et al. (2018) and that of Dignath et al. (2022), which discovered that teachers' efficacy regarding inclusion was at a modest level. In contrast, (Hecht et al., 2017; Mandabon, 2023) showed that teachers' self-efficacy in managing students with special educational needs was quite high. The current study documented that teachers have a moderate attitude towards the inclusion of SVI in regular schools. This contradicts with De Boer et al. (2011) who showed that, in general, teachers had from neutral to negative attitude towards inclusive education. The current study also differs with the findings of Ogadho et al. (2015) conducted on Kenyan teachers drawn from Kisumu County that revealed prevalent negative attitudes of teachers towards inclusion and children with disabilities. Similarly, research by Alzemaia (2019) revealed negative attitude of teachers, at pre-training stage, towards inclusive education in Saudi Arabia. Teachers were found to have neutral attitude towards inclusive education in a local study conducted by Moti et al. (2018) in Nekemte town, Ethiopia. The difference in the teachers' attitude between this study and that of Moti et al. (2018) could be attributed to the place of study; in which the previous study was conducted in rural part of Ethiopia. On the other hand, the findings of this study corroborates the results of the study conducted by Johnstone and Chapman (2009) and Zainalabidin and Ma'rof (2021) that documented a moderate level of teachers' attitude towards inclusive education in Lesotho and Malaysia, respectively. The current study is also in line with research conducted by Lola and Musa (2019) in Southern Ethiopia, in which teachers were found out to have a slightly positive attitude towards inclusion of learners with special education needs in regular schools.

This study documented an average level of teachers' practice of the various inclusive instruction strategies in the inclusion of SVI in regular schools. Whereas, studies conducted in local context suggest existence of poor level of practice of inclusive education by school teachers. For instance, Moti et al. (2018) uncovered that primary school teachers rarely practiced inclusive education. Similarly, Geleta (2019) found that the level of implementation of inclusive education in general schools drawn from Sebeta town was very poor.

This study indicated that knowledge is not a significant predictor of teachers' practice, while self-efficacy and attitude were able to predict inclusion practices of teachers in regular schools. The present finding supports the study conducted by Kuyini and Desai (2007), which demonstrated that attitudes towards inclusion significantly predict effective inclusive teaching practices. It also goes in line with that of Zee and Koomen (2016) study which indicates that self-efficacy predicts inclusive practices at schools. It also supports Hofman and Kilimo (2014) that suggested the implementation of inclusive education is more

problematic for teachers who have poor self-efficacy. The current results substantiate the findings of a study by Wray et al. (2022), which emphasized that a major contributing factor to the explanation of the usage of inclusive instruction is higher teacher self-efficacy. However, the findings of the current study do not support the previous local research conducted by Moti et al. (2018) which indicated that knowledge of the teachers significantly contributed to the practice of inclusive education. This study has been unable to demonstrate that knowledge is a significant predictor of inclusive practices as indicated by Kuyini and Desai (2007). There may be certain practical challenges in putting the knowledge of inclusive education strategies into practice, such as large class sizes and resource constraints. Tackling these and other similar practical challenges could help bridge the gap between knowledge and practice in inclusive education.

Conclusions and Implications

This study set out to determine factors affecting teachers' practice of inclusive instructional strategies considering SVI in regular schools. The study assessed how teachers' knowledge about disability specific inclusive instruction strategies that are used to teach SVI, attitudes towards inclusion of SVI in regular schools and self-efficacy in teaching SVI predict teachers' practice of inclusive instruction strategies in teaching SVI in regular schools.

Important conclusions drawn from this study include: 1) teachers have good understanding of inclusive instructional strategies that can be used in teaching SVI; 2) teachers have moderate level of self-efficacy and favorable attitude towards the inclusion of SVI in regular schools; 3) moderate level of practice of inclusive instructional strategies was documented in the present study; and 4) teachers' self-efficacy and attitude were able to significantly predict their practice of inclusive instructional strategies, while knowledge is not a significant predictor.

The study's findings have important implication to further improve inclusion of SVI in regular schools. School leaders can organize hands-on in-service trainings for teachers on disability specific inclusive instructional strategies used to teach SVI to further improve the level of inclusive practices. Moreover, nurturing self-efficacy and further improving attitude of teachers could result in improved inclusive practices at schools. This could be done at pre-service training level by teacher training institutes and also at in-service trainings arranged at school level. More specifically, short term training on hands on skills that enhance the self-efficacy of teachers is recommended to effectively teach SVI in an inclusive classroom.

Limitations of the Study

Due to its exclusive focus on teachers from Addis Ababa's primary and secondary schools, this study has a geographic limitation. Future studies could assess the relationship between the study variables in other parts of the country. The study has a limitation in solely relying on self-reported data from the school teachers regarding their knowledge, self-efficacy, attitude and practices. These results therefore need to be interpreted with caution and future studies could consider integrating other type of data like classroom observations. Furthermore, the study does not separately address the results for students with blindness and

low vision. Subsequent research endeavors may potentially tackle this matter for a robust understanding of the subject.

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Teacher effectiveness in English-medium instruction and students' academic achievement: A value-added model in action

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Abstract

This study aimed to investigate the association between general science teachers' effectiveness in teaching through English and students' academic success in Debre Birhan City. In addition, it sought to determine which dimensions of English as a medium of instruction (EMI) accounted for the greatest variability. Furthermore, it examined whether demographic variables such as sex, qualification, and experience co-variated with students' academic achievement (SAA). A non-experimental correlational design was employed. The study sample included 45 randomly selected teachers and 1575 students in 45 classrooms. A teacher effectiveness questionnaire and an academic achievement test were used as data collection tools implementing the principle of the value-added model. The findings revealed a strong relationship between teachers' effectiveness in teaching science through English and SAA, with pedagogical knowledge being the highest contributor and experience co-variating with SAA. The unstandardized coefficient output also reveals that SAA increases by a certain percentage as every scale of EMI increases. The study recommends on-the-job training for EMI teachers. Additionally, experienced teachers should work in pairs with younger teachers and share fresh perspectives on teaching methods and effective language use. The introduction of EMI implementation policies is also recommended.

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Introduction

In education, scholars agree that the language of instruction significantly impacts students' academic success and overall learning outcomes (Bernhofer & Tonin, 2022; Husarida & Dollete, 2019). English as a Medium of Instruction (EMI) has become a rapidly growing area of interest for language scholars, decision-makers, and practitioners in the age of fast information spread around the world and increased connection among nations (Tang, 2020). Due to the belief that English is well-suited to the global lingua-franca, alongside the

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financial, linguistic, cultural, and informational capital the English language has accumulated over time (Jenkins, 2013), it is widely implemented .

The concept of EMI refers to "the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language of the majority of the population is not English" (Macaro et al., 2018, p. 37).This implies the role of English in teaching varied subjects in educational settings, aiming at the mastery of contents other than the language itself in areas where English is not the language of the majority. The trend to use EMI has increased in popularity, leading children to be exposed to learning in languages different from their first language at various educational levels worldwide (Dearden, 2014; Tri & Moskovsky, 2023).

Researchers present a compelling case for the pervasiveness of EMI, citing the perceived need for institutions to internationalize and attract global students, the pressure on government institutions to compete with private sectors, and the leverage of English as the dominant language for research publications (Knight, 2013). In addition, parents perceive EMI education as highly prestigious and agree to spend the required money to help their children acquire education through EMI (Tollefson, 2017).

However, in light of the growing popularity of EMI, particularly when students learn in a language different from their mother tongue, the issue of teacher effectiveness (TE) in using the language of instruction becomes a central area of discussion in academia. TE encompasses a teacher's ability to improve student learning as measured by standardized tests (Little et al., 2009). Stronge (2007) also contends that student achievement is the ultimate evidence of teacher effectiveness through the value-added model.

The Center for Educational Policy Research (CEPR) (2011) illustrates that the value-added model helps to determine students' academic progress from one year to the next as the result of the impact of factors outside the teacher's control such as the students' living standards, English language proficiency, teacher salary, etc. The CEPR denotes that the value-added model is important for two main reasons: first, it directly links teacher effectiveness to student learning, and second, it provides shared average findings for groups of teachers.

Chen et al. (2020) examine EMI effectiveness from three perspectives: proficiency in the English language use, EMI pedagogy or teaching strategies, and personal factors like teachers' perceptions and attitudes towards EMI. Sah (2022) also accepts the value of English language proficiency and EMI pedagogy for teachers' effectiveness and questions what could happen if teachers were challenged due to a lack of language proficiency and pedagogy. This study also gauges TE in using EMI in these three domains: language proficiency, EMI pedagogy, and the personal situation of science teachers in their lesson delivery. The domains served as the basis for the conceptual framework for this study.

English language proficiency is central for EMI teachers (Chen et al.,2020). According to the authors, English language proficiency encompasses a variety of skills, including but not limited to pronunciation, vocabulary acquisition, grammar use, sentence structures, and understanding of singular and plural nouns and conjunctions. Effective pedagogical practices in EMI classrooms prioritize students' understanding of scientific concepts. This fosters productive learning environments that significantly benefit students

(McComas, 2014). McComas adds that to ensure effective language pedagogy in science classrooms, teachers should identify their students' language resources in both the home language and English.

Teacher attitudes towards EMI are mixed. Some view it as a mandatory policy imposed by schools, while others see it as a preferred approach. This is supported by the review by Galloway et al. (2017), which highlights contrasting findings in research. While some studies show positive teacher attitudes, others indicate resistance due to challenges in explaining concepts through English (Galloway et al., 2017). Therefore, further research is needed to explore the attitude of teachers towards EMI and develop strategies to create a more positive and enabling environment for EMI implementation.

Problem Statement

Although EMI retains an international reputation and gets a wider promotion, some challenges deter its implementation. According to Bradford (2016), these challenges include learners' difficulties in comprehending content and teachers' inability to deliver lessons with the appropriate command of the English language (linguistic problems). Additionally, there can be a mismatch between the mode of delivery students are accustomed to in their local language and the new approach in EMI implementation (cultural challenge). Furthermore, structural challenges which include the limited number of EMI courses, teachers' lack of confidence in delivering courses through EMI, and insufficient support from institutions to maintain a high professional level for teachers daunt its implementation. Finally, identity-related challenges arise when the EMI program itself is perceived as a way to suppress local languages and threaten students' first language development and popularity (Bradford, 2016).

In addition, the impact of EMI on student achievement remains unclear. While some studies find no significant difference in achievement between EMI and non-EMI students (Dafouz & Camacho-Miñano, 2016; Yang et al., 2019) others suggest that students may face difficulties learning content through English (Kirkgoz, 2005; Sert, 2008). This inconsistency highlights the need for further research to understand the factors that influence the effectiveness of EMI for student learning.

Furthermore, there is a significant gap in research on EMI at the primary school level. In their state-of-the-art article, Macaro et al.(2018) tried to review research works on EMI. The researchers reviewed 285 articles in all educational phases: pre-primary, primary, secondary, and higher institutions, along with the main regions where EMI is practiced: Africa, Asia, Europe, the Middle East, and South America. The result indicates that there is paucity of research findings in the area. At the primary school level, out of 41 articles, the Middle East was represented only by one, Africa by two, Asia by eighteen, and Europe by twenty articles. It is tacit that Africa's representation in EMI, including Ethiopia, was scanty, when compared to Asia and Europe during the study period, 2017. Thus, the scarcity of research on primary schools in the study area triggers further investigation.

Low students' achievement in science subjects is a pressing concern in the Amhara Region of Ethiopia, particularly at the Grade 8 level. The baseline survey of the general science subject regional exam results from 2018/2019-2020/21 discloses the prevalence of problems in learners' achievement. The data from the Debre Birhan City Education Office

affirms the situation. For instance, in 2018/19 among 1601 students who sat for the Grade 8 regional examination, 68.59% of the learners got below average in general science subject. Similarly, in the 2019/20 academic year, among a total of 1349 students who took the regional examination, only 23.74% achieved scores above the average. In a similar vein, in 2020/21, only18.56% obtained above average. Conversely, 81.44% of the students received below average in the same year. All these suggest the presence of the issue regarding success in general science subjects at the Grade 8 level in the study area when one of the contributing factors for lower academic achievement can be the use of EMI in science classes (McComas, 2014).

The prevalence of such problems makes the investigation of EMI teachers' effectiveness vital and timely because TE serves as a basis for students' academic success (Stronge, 2007). When English is used as a language of instruction, it is not only a tool for communication but also a gateway to the acquisition of knowledge (Hudson, 2009). Rose et al. (2019) argue that teachers need language proficiency, pedagogical strategies, and positive personal situations in addition to subject knowledge.

This situation highlights a critical gap in our understanding of how EMI effectiveness relates to student achievement in science subjects like general science. While research explores TE and SAA in general(Husarida & Dollete, 2019; Stronge et al., 2011), there is a lack of research investigating the specific relationship between TE in using EMI and student success in EMI science classes at primary level.

Thus, the purpose of the current study is to examine the nexus between TE in teaching science using EMI in the upper primary schools (Grade 8) and SAA, with particular goals of: (1) exploring the relationship between general science TE in using EMI and SAA, (2) determining which of the dimensions of EMI account for the greatest variability in SAA, and (3) analyzing whether demographic variables (sex, qualification, and experience) of teachers co-variate with SAA.

To achieve these objectives, the following hypotheses were formulated: (1) there will be a significant positive correlation between general science teachers' effective EMI use dimensions (EMI proficiency, EMI pedagogy, and personal situation) as measured by the TE questionnaire and SAA, as measured by an academic achievement test; (2) the general science teachers' effective EMI use dimensions can be used to predict SAA; (3) there will be a significant positive relationship between general science teachers' demographic variables (sex, qualification, and experience) and SAA.

Methods

Study Design

The present study sought to investigate the relationships between TE in using EMI and SAA using a non-experimental correlational design. Because TE in EMI and SAA involve many interacting factors, a correlational approach was preferred to an experimental design. Correlational techniques are useful in addressing real-world or intricate problems that cannot meaningfully be explored through experimental investigation (Tabachnick & Fidell, 2013).

Study Participants

The study was conducted in Debre Birhan City, Amhara, Ethiopia. The target population was Grade 8 science teachers and students. Grade 8 was chosen for two key reasons. First, EMI begins in Grade 7 in the Amhara regional state, and a second-year experience in Grade 8 could give more exposure to the students' learning in EMI. Second, students' Grade 7 average result in general science was intended to be used as baseline data to predict students' achievement at the Grade 8 level because the value-added model began by identifying a baseline result. General science (the mix of biology, physics, and chemistry) was chosen because it was one of the few subjects in which teachers delivered lessons in English in the study area.

In the 2022/23 academic year, Debre Birhan City had 54 general science teachers teaching 2107 Grade 8 students across 62 classrooms. The teachers were assigned to 35 government schools. A sample size was determined using Cohen et al. (2018) with a 95% confidence level and a 5% confidence interval. This resulted in the selection of 47 teachers out of the total. To align with the teachers' sections, a purposive sampling method was used to select 1645 students from 47 sections. To determine the actual participants, a systematic sampling was applied with every 'N' after receiving the list of all general science teachers from Debre Birhan City Administration Education Office. Hence, 47 teachers and their respective students in 47 sections were made to be part of the investigation. None the less, two teachers were not able to return the questionnaires. Therefore, only data from 45 teachers and their 1575 corresponding students was entered for analysis.

The descriptive analysis of the demographic variables indicated that among the participating primary school teachers, 21 (46.7%) were male and 24 (53.3%) were female. Regarding qualifications, 20 (44.4%) were diploma graduates, while 25 (55.6%) held first degrees in general science education. The sample teachers had three categories of teaching experience. 14 (31.1%) had 1–5 years of experience, 15 (33.3%) had 6–10 years of experience, and the remaining 16 (35.6%) had over ten years of teaching experience.

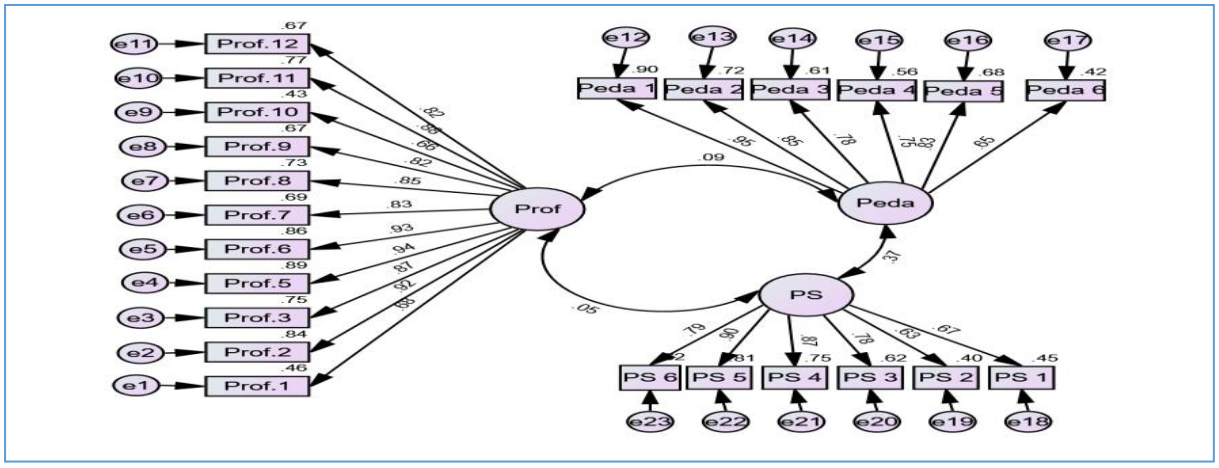
Instruments

Teacher Effectiveness Questionnaire

The purpose of the questionnaire was to determine the effectiveness of general science teachers in using EMI to deliver lessons in the upper primary schools. The questionnaire had two parts. Part one was about the background information of science teachers, whereas part two was made up of three major components: English language proficiency, EMI pedagogy, and the personal situations of teachers. The three dimensions received Cronbach Alpha values of.861, .846, and.844, respectively. The questionnaire was of the five-point Likert scale type, ranging from "very less" to "very high extent". The test was developed by the researchers themselves based on works of Bachman and Palmer, (1996), Chen et al. (2020), Sahan et al., (2021), and Shrestha, (2022).

Figure 1

The Factor Loading for all Items of EMI Constructs



To address issues in construct validity, confirmatory factor analysis (CFA), which helped to respond to convergent and discriminant validity, and analysis of moment structure (AMOS) of Version 26 was employed. Of the three latent variables (Figure 1), EMI proficiency had eleven observed items, EMI pedagogy had six, and personal situation had the other six. All the loading variables were found to be over 0.6, and similarly, all R^2 values were above 0.4, evidencing achievement in convergent validity, according to Byrne (2010). The output also indicated that the correlation among the latent variables was low and was later used to determine the discriminant validity.

The CFA report for every construct indicated that each loading factor was above 0.6 and every AVE value was above 0.50, indicating good convergent validity (Hu & Bentler, 1999). The results of CFA also indicate that the chosen model to measure TE in using EMI had good fit statistics (Table1), including Chi-square (X^2/DF) =1.244, RMSEA of 0.075, GFI of 0.949, and CFI of 0.956, all meeting Byrne's (2010) criteria for good fit.

Table 1

The Fitness Index for the Measurement

Name of Category	Name of Index	Index Value	Comments
Absolute Fit	RMSEA	0.075	The requirement is achieved
	GFI	0.949	The requirement is achieved
Incremental Fit	CFI	0.956	The requirement is achieved
Parsimonious Fit	Chisq/df	1.244	The requirement is achieved

Note. RMSEA=Root Mean Square of Error Approximation; GFI= Goodness of Fit Index; CFI= Comparative Fit Index; Chisq /DF= Chi Square/Degrees of Freedom

To assess discriminant validity, the average variance extracted (AVE) was calculated for each construct. Thus, the diagonal values in bold for EMI proficiency, EMI pedagogy, and personal situations (Table 2) were obtained. The remaining values refer to the correlation between the constructs. The values in Table 2 imply that discriminant validity for all

constructs is achieved because the diagonal values in bold are higher than the values in rows and columns.

Table 2

The Discriminant Validity Index Summary for EMI Constructs

Construct	EMI Proficiency	EMI Pedagogy	Personal Situation
EMI Proficiency	**0.84**		
EMI Pedagogy	0.09	**0.80**	
Personal Situation	0.05	0.37	**0.78**

Students' Academic Achievement Test

The final instrument for the current research was the students' academic achievement test. Kubiszyn and Borich (2003) underline that test validity should be seen from three perspectives: content, criterion-related, and construct validity. However, they argue that for an achievement test, content validity evidence holds the most weight, as it demonstrates how well the test measures the intended content. Following this principle, the test was made to measure what it was supposed to measure, specify the contents to be included (content coverage), minimize guessing answers, and make the items measure instructional objectives given in the Grade 8 general science textbook. The textbook had seven chapters that dealt with the basics of scientific investigations: the composition of matter, classification of compounds, human body systems and health, ecosystems and conservation of natural resources, the solar system, and physical phenomena in the surrounding area**.**

To ensure that the test was well-developed, it underwent several stages and processes. For instance, the test developers received training from an expert in the area, created a table of specifications, wrote, and piloted the test. Moreover, other science teachers commented on the test items. After comments and piloting, an item analysis (for indices of item difficulty and discrimination) was carried out for each item, and the test was improved based on the analysis's findings.

Ultimately, during the second semester of 2022-2023, a sixty-item multiple-choice test based on Grade 8 general science curriculum materials was administered under supervision. It was noted that the major purpose of the test was not to test teachers' content knowledge but rather their language use in lesson delivery and how they used the instructional language for students' academic success. In this regard, each teacher was examined based on the mean results of students in their respective sections. The grand mean of the section was used to indicate the effectiveness of the teacher. This coincides with the basic conceptions of the value-added model.

Data Analysis

Descriptive statistics were used to analyze the demographic information of the participants. This included calculating frequencies, means, and standard deviations for the number of male and female science teachers, their educational backgrounds, and their teaching experience. Inferential statistics were employed in different phases of the analysis. First, the correlation between TE in using EMI and SAA was measured. Therefore, a Pearson

product-moment correlation was computed. Second, to determine which teachers' EMI effective use sub-scales predicted SAA, a standard multiple regression was worked out. Finally, to examine the relation of the demographic variables to SAA, hierarchical multiple regressions were applied.

Before calculating the correlation between the variables, the normality of the data was assessed. This involved generating scatter plots to visually inspect the linear relationship and checking for outliers that could artificially inflate or deflate the correlation coefficient (r). For the results that passed the normality test, Pearson's product moment correlation was applied. The Z scores for Skewness and Kurtosis fell within the range of -1.96 to 1.96, suggesting the normality of the variables. Similarly, assumptions were checked for the multiple regressions using scatter plots to check the relationship between each independent variable and the dependent variable and to check the relationship among the independent variables using multicollinearity and the correlation matrix. During the normality check of hierarchical multiple regressions, a non-parametric Kruskal-Wallis was applied as experience in teaching Grade 8 was not normally distributed.

Results

Correlation Results

The Relationship between Teacher Effectiveness in Using EMI and SAA

Hypothesis one was developed to ascertain the relationship between the dimensions and the composite outcome of teachers' effectiveness in employing EMI and SAA and ultimately accomplish objective one. The relationship between the three dimensions of EMI (proficiency, pedagogy, and personal situation) and SAA was computed using the Pearson Product-Moment Coefficient. The total correlation between EMI and SAA was also calculated. The results are presented in Table 3. There was a statistically significant but weak positive relationship between the general science teachers' EMI proficiency and their SAA [r =.28, n = 45, p <. 05]. Compared to the critical value of r = .2428 for 43 degrees of freedom (directional test), this correlation is significant at the .05 level.

The subsequent statistical analysis revealed a significant and strong relationship between teachers' EMI pedagogy and SAA [r =.55, n = 45, p <. 01]. The obtained value r =.55 makes the correlation significant when compared with the critical value r =.3384 for 43 degrees of freedom at the.01 significance level for a directional test. The correlation between teachers' personal situation and SAA was moderate and significant (r =.35, n = 45, p <.01). Finally, a significant and strong positive relationship was found between the composite EMI score and SAA (r =.59, n = 45, p <.01) and helped to retain hypothesis one.

Table 3

Descriptive Statistics and Correlations between the Dimensions of EMI and SAA

Variable	M	SD	1	2	3	4	5
1. EMI Proficiency	3.02	.35	-	.138	-.222	.441**	.282*
2. EMI Pedagogy	2.90	.34		-	.234	.259**	546**

Variable	M	SD	1	2	3	4	5
3. Personal Situation	3.20	.67			-	.743	.351**
4. EMI Mean	3.05	.28				-	.585**
5. SAA	33.23	2.34					-

Note. n=45 (for each variable), EMI=English as a Medium of Instruction; SAA=Students' Academic Achievement

Multiple Regression Results

To determine which of the independent variables predicted the greatest amount in SAA (the relative contribution of each independent variable) and how much of the variance in SAA was explained by the scores of EMI, a standard multiple regression was employed. Thus, hypothesis two was formulated to achieve the second goal.

English Medium of Instruction for Predicting SAA

Table 4

ANOVA Table: EMI Predicting SAA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	103.735	3	34.578	10.266	.000[b]
	Residual	138.097	41	3.368		
	Total	241.833	44			

Note. a. Dependent Variable: Students' academic achievement
b. Predictors: Constant, personal situation mean, EMI proficiency mean, EMI pedagogy mean

Table 5

Model Summary EMI Predicting SAA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.655[a]	.429	.387	1.83527

Note. a. Predictors: Constant, personal situation, EMI proficiency, EMI pedagogy
b. Dependent Variable: Students' academic achievement

The ANOVA results (Table 4) show a significant regression effect, F (3, 41) = 10.27, p <.001. In addition, the model summary table, Table 5, displays an R-value of.66 with a 95% confidence interval. The R-value suggests a high correlation between the predictors and the outcome. On the other hand, R^2 in our model, which includes EMI proficiency, EMI pedagogy, and personal situation, explains 42.9% of the variance in SAA, indicating that 57.1% of the variance in SAA is attributed to other non-EMI effective use variables. The adjusted R^2 value is .39. 95% confidence intervals were found for the three regression coefficients that differed significantly from zero. Consequently, the confidence intervals for EMI proficiency were found to be.287 to 3.619, EMI pedagogy to be 1.249 to 4.681, and personal situation to be.210 to 1.975.

Table 6 presents the standard multiple regression analysis. The standardized beta coefficients (β) and significance levels (p-values) of the three independent variables (IVs) indicate their relative contribution to SAA prediction. EMI proficiency (β = 0.292, p < 0.05), EMI pedagogy (β = 0.432, p < 0.05), and personal situation (β = 0.315, p < 0.05) all have significant beta values. This indicates that EMI pedagogy and the personal situation of the teachers contributed more for SAA than teachers' EMI proficiency. The intercept value in Table 6 also reveals the amount students can achieve if the issues related to EMI proficiency, EMI pedagogy, and personal situation are kept to zero.

Table 6

Standard Multiple Regression of EMI Proficiency, EMI Pedagogy, and Personal Situation on SAA

Variables and Values	SAA	EMI Proficiency	EMI Pedagogy	Personal Situation	B	β	Sr^2
EMI Proficiency	.28	-			1.96*	.292	.0778
EMI Pedagogy	.55	.14	-		2.97**	.432	.169
Personal Situation	.35	-.22	.23	-	1.10*	.315	.0870
					R^2= .43		
					Adjusted R= .39		
					R= .66**		
Constant/Intercept = 15.2							

Note. **P < .01; *P < .05

Demographic Variables in Predicting SAA

To see if demographic variables such as sex, qualification, and experience were able to predict a significant amount of variance in SAA, hypothesis three was formulated. This helped to achieve objective three.

The model summary for demographic variables (Table 7) shows Model 1 (including sex, qualification, and experience) explains 24% of the variance in SAA (R-squared). Adding the three EMI dimensions (Model 2) significantly increased the explained variance by 28.1% (to a total of 51.6%), F (3, 38) = 7.35, p < .001.

In the ANOVA table for demographic variables, Table 8, the results evidence that the entry of demographic variables in particular (Model 1) resulted in a significant prediction equation, F (3, 41) = 4.19, P <.05. The additional inclusion of the three dimensions of EMI variables (Model 2) resulted in an overall significant prediction equation, F (6, 38) = 6.74, P <.001.

Table 7

Model Summary Table for Demographic Variables in Predicting SAA

Model	R	R Square	Adjusted R Square	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
1	.484[a]	.235	.179	.235	4.189	3	41	.011
2	.718[b]	.516	.439	.281	7.349	3	38	.001

Note. a. Predictors: Constant, sex, experience teaching in grade 8, educational qualification

b. Predictors: Constant, Sex, experience teaching in grade 8, educational qualification, EMI pedagogy, personal situation, EMI proficiency

c. Dependent Variable: Students' academic achievement

Table 8

ANOVA Table for Demographic Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.737	3	18.912	4.189	.011[b]
	Residual	185.096	41	4.515		
	Total	241.833	44			
2	Regression	124.696	6	20.783	6.742	.000[c]
	Residual	117.136	38	3.083		
	Total	241.833	44			

Note. a. Dependent Variable: Students' academic achievement
b. Predictors: Constant, sex, experience teaching in grade 8, educational qualification
c. Predictors: Constant, sex, experience teaching in grade 8, educational qualification, EMI pedagogy mean, personal situation mean, EMI proficiency mean

Among the demographic variables, only respondents' experience significantly contributed to the prediction of SAA (β =.28, t = -2.22, P <.05). If teachers' experience was found to predict SAA, it is worth asking whether the three experience groups (G1, G2, and G3) had a significant difference. This needs one-way between-groups ANOVA. Before running the test, the normality assumptions were checked. The Shapiro-Wilk test result indicated that experience in teaching Grade 8 was not normally distributed, P =.000, indicating a violation of normality. Therefore, a non-parametric test, Kruskal-Wallis, was applied. The test result revealed a statistically significant difference in SAA across the three experience groups (Gp1, n = 14: 1–5 years, Gp2, n = 15: 6–10 years, Gp3, n = 16: 11 + years), x^2 (2, n = 45) = 7.43, P =.024. Among the three groups, the least experienced teachers group recorded the highest median score (Md = 30.71) compared to the other two groups, which obtained (Md = 21.07) for the middle group and (Md = 18.06) for the most experienced group.

Table 9 provides the unstandardized coefficient output that lets us interpret the relationship between teachers' EMI effectiveness and SAA. This means that as teachers' EMI proficiency increases by one scale (as measured by the Likert scale of 1–5 from strongly disagree to agree strongly), SAA increases by 2.29% (as measured by the SAA Test out of 100). This interpretation is true only if the other dimensions (EMI pedagogy and personal situation) are held constant. Similarly, as teachers 'EMI pedagogy increases by one scale, SAA increases by 2.19%. Finally, as the personal situation of teachers increases by one scale, SAA can increase by 1.16% when, in all cases, the other variables are held constant. This suggests that increasing teachers' EMI proficiency, EMI pedagogy, and personal situation increases SAA.

Table 9

Coefficient table for hierarchical multiple regression on demographic variables

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Beta			Tolerance	VIF
1	Constant	33.60		15.65	.00		
	Qualification	1.37	.293	1.70	.096	.629	1.589
	Experience	-1.25	-.438	-3.08	.004	.918	1.089
	Sex	.033	.007	.042	.967	.638	1.566
2	Constant	18.993		4.985	.000		
	Qualification	-.149	-.032	-.177	.860	.394	2.539
	Experience	-.790	-.278	-2.220	.032	.813	1.230
	Sex	-.579	-.124	-.756	.454	.471	2.124
	EMI Proficiency	2.291	.343	2.233	.031	.540	1.851
	EMI Pedagogy	2.189	.319	2.444	.019	.747	1.338
	Personal Situation	1.160	.334	2.407	.021	.661	1.513

Discussion

The Relationship between Teacher Effectiveness in using EMI and SAA

The study examined the relationships between SAA and the effectiveness of general science teachers' use of the English language for instruction in the Debre Birhan City. It also aimed to identify the aspects of EMI that most significantly contributed to variability. Additionally, it looked at the possibility of covariation between SAA and demographic factors such as sex, qualification, and experience. To achieve the objectives, three hypotheses were tested.

The links between the dimensions of EMI and the composite outcome of TE in implementing EMI and SAA were tested for hypothesis one. The result for H1 indicated a weak but positive relationship between teachers' EMI proficiency and SAA. The result suggests that as the EMI proficiency of general science teachers, such as their ability to pronounce scientific terms, define science words, use suitable grammatical rules, ask and answer questions, etc. increases, students' academic success also increases. Nonetheless, this weak correlation indicates the absence of important elements in teachers' proficiency in supporting their students using the language of instruction. The result also implies the inadequacy of sound and script knowledge, lexico-grammatical knowledge, and discourse-semantic knowledge, which are relevant to unfolding meaning in a text and giving scientific explanations, classifications, and descriptions, as Hao (2021) argues. Despite the weak effect size, the statistically significant correlation coefficient (r =.28) was obtained.

The correlation matrix showed a significant and strong relationship between teachers' EMI pedagogy and their students' success. This indicates that as general science teachers' pedagogical knowledge of using EMI increases (e.g., enhancing student participation through questioning, using demonstrations and hands-on activities, employing repetition for clarity, and fostering teacher-student interaction), SAA also increases. The result is in line with McComas's (2014) assertion that teachers with strong pedagogical practice value what they

should do to help students understand science concepts and ultimately create effective learning settings from which students benefit a lot. The result supports the importance of making pedagogy part of TE as pedagogy cannot be separated from language use (Sahan et al., 2021). Chen et al. (2020) and Shrestha (2022) also recognize the strong role of EMI pedagogy in EMI classrooms which ultimately supports student success.

The correlation between teachers' personal situation and SAA was moderate and significant. This suggests that when teachers have a positive attitude towards EMI, are motivated, and believe in its effectiveness for their science classes, student achievement in general science also increases. The result supports Dearden's (2014) argument that when teachers perceive EMI positively, it helps to share ideas with others, facilitate communication, and enhance the personal and professional development of their own and their students. The outcome is consistent with Shrestha's (2022) findings about teachers' positive sentiments regarding the use of EMI. She believes that EMI may improve students' and teachers' English language skills, as well as SAA, if teachers are enthusiastic and driven to use it in the classroom. Unlike Dearden and Macaro (2016), whose findings indicate that teachers' attitudes toward EMI are ambiguous, exhibiting both support and opposition, the results of this study demonstrated a moderate and positive association.

A significant and strong positive relationship was found between the composite EMI score and SAA.This indicates a strong overall correlation between TE in using EMI (an independent variable) and SAA (a dependent variable). Consistent with this finding, a study conducted by Heck (2009) found that TE was related to student achievement in both reading and math. Student outcomes, in Stronge's opinion (2007), are the best evidence of a TE and suggest strong relationships between their effectiveness and SAA. Odden et al. (2004) also indicate that TE has a significant influence on student achievement. In sum, the results of the current study point out that hypothesis one is upheld, accepting a significant relationship between TE in using EMI and SAA.

The Relative Contribution of Each Independent Variable

To find out which independent variable predicted the most in SAA (the relative contribution of each independent variable) and how much of the variance in SAA was explained by the EMI scores, we evaluated hypothesis two. Initially, there was a high correlation between the predictors and the outcome. It was also identified that EMI dimensions explained 42.9% of the variance in SAA. The adjusted R^2 value of.39 also indicated that more than a third of the variability in SAA was predicted by teachers' EMI proficiency, EMI pedagogy, and personal situation.

The standard multiple regression analysis results suggest that all three variables contributed to predicting SAA, with EMI pedagogy having the strongest effect, followed by personal situation, and then EMI proficiency. This implies that teachers' EMI proficiency contributed less to SAA when compared to the other two IVs. This suggests the inadequacy of what Bachman and Palmer (1996) term as grammatical knowledge (e.g. producing grammatically acceptable sentences, asking well-structured questions, constructing passive sentences, pronouncing words correctly, etc.), textual knowledge(e.g. knowledge of

cohesion), functional knowledge (e.g. explaining meaning, interpreting meaning, giving commands and suggestions, etc.) and heuristic knowledge (e.g. using language for teaching).

Demographic Variables in Predicting SAA

In testing the potential of demographic variables such as sex, qualification, and experience in predicting a significant amount of variance in SAA, hierarchical multiple regression results indicated that among the demographic variables, only respondents' experience significantly contributed to the prediction of SAA (β =.28, t = -2.22, P <.05). The result is consistent with Francisco's (2020) finding, which revealed that personal characteristics such as sex and qualification, along with other characteristics of the population (age, civil status, academic rank, and performance rating), were not able to predict students' achievement in English. A previous study by Tella (2008) on teacher variables as predictors of academic achievement of primary school pupils in mathematics found that teacher variables such as attitude, qualification, and experience were not able to predict students' achievement in mathematics subject. A similar study conducted in Kenya, by Kimani et al. (2013)on teacher factors influencing SAA in secondary schools found that teachers' age, gender, professional qualification, and teaching experience were not significantly related to SAA. Zhang (2008) also found that years of teaching experience in science did not directly influence student science achievement. However, experience seems to play a different role in this study. Nonetheless, Hypothesis three was partially accepted.

In analyzing which group of teachers contributed more to the academic success of students (G1, G2, and G3), the less experienced teachers group (1-5 years) achieved the highest median score (M=30.71). This implies that younger teachers contributed more to the success of the students than their senior teachers. This could be due to the teachers' nearing graduation from college and their potency in making use of what they learned. However, the outcome deviates from the conception held. According to Huang and Moon (2009), a teacher should be more effective the more years of experience they have. Similarly, Strong (2006) argues that the effectiveness of more seasoned teachers is greater than that of recently hired new teachers.

Conclusions and Recommendations

Conclusions

Numerous study results attest to the growing tendency of educational institutions and schools to use EMI at different levels. Although there are a number of reasons why EMI is so popular in Africa and other parts of the world, there hasn't been enough talk on how students are affected when primary school teachers are effective in using English to raise students' academic achievement levels.

The findings revealed a positive and significant relationship between the three EMI dimensions and SAA. These dimensions explained 42.9% of the variance in SAA, while the remaining 57.1% is likely attributed to other factors beyond effective EMI use. The results obtained here support the view that TE is positively and significantly aligned with students' academic gains, as noted under the discussions section. The findings were validated by

statistically significant coefficient outcomes for every EMI dimension and the combined EMI and SAA output.

In addition to determining the correlation coefficients, regression analysis was also run to explore which of the dimensions of the independent variable (EMI) was responsible for the greatest variance in SAA. The Standardized Coefficient Beta values (β) revealed a strong correlation between EMI predictors and outcomes. This is evident from the model summary. EMI could also be used to predict more than one-third of the variability in SAA. However, EMI proficiency (as a dimension of EMI) was found to be the least in its relative contribution.

In analyzing the moderating effect of the demographic variables of the respondents (sex, qualification, and experience) between EMI dimensions and SAA, the correlated and regressed independent variables (the demographic characteristics) were computed. Although the demographic variables could predict SAA significantly in sum, it was only partial because sex and educational qualification could not moderate between EMI and SAA. Younger teachers with less experience appeared to be associated with higher SAA.

Overall, our findings suggest a positive correlation and regression between TE in using EMI and SAA, implying that enhancing this effectiveness can significantly improve student achievement. The unstandardized coefficient output suggests that increases in any of the EMI dimensions contribute equally to increases in SAA. However, further investigation is needed to understand the specific reasons behind the association between younger, less experienced teachers and higher SAA.

Recommendations

The current research sought the association between teachers' EMI competence in teaching general science and their contribution to the academic success of students in Grade 8. From the research findings identified, the following recommendations are made:

The results obtained from regression coefficients indicated that TE in using EMI could explain about 42.9% of the variance in SAA. This implies that if teachers vigorously work on teachers' effective use of EMI, students' achievement can be improved in a meaningful way. Therefore,

First, primary schools, making use of the continuous professional development programs in their schools, should organize targeted training workshops that can enhance teachers' EMI use competence and help teachers share experiences on best practices in using EMI effectively. The schools can provide training in collaboration with teacher education colleges and universities.

Second, primary schools should develop supportive materials and resources that can be used as guidelines while delivering lessons in English. A good example can be "classroom English" templates to assist teachers in their everyday classroom interactions. This can again be achieved by working with teacher education colleges and universities because they can align the target language use with the needs of the EMI teachers.

Third, the demographic characteristics of teachers revealed that less experienced teachers contributed more to SAA. Thus, seasoned teachers should work in pairs with younger teachers and share fresh perspectives on teaching methods and effective language

use. The school should also encourage a system of peer observation where teachers can learn from each other's practices, fostering a culture of continuous improvement. The school can also promote collaborative teaching and foster a regular feedback mechanism through which teachers receive suggestions on their performances and SAA.

Finally, to enhance the effective use of EMI and SAA, it is essential for policymakers, school administrators, teacher education colleges, education universities, and researchers to assess the current status of EMI and its impact on SAA, while also introducing comprehensive implementation policies for EMI. Furthermore, to deepen the exploration of EMI in science teaching, future research should consider incorporating additional variables to covariate the independent and dependent variables. Expanding the sample size and employing a canonical correlation design would enable a more nuanced understanding by allowing for multiple independent and dependent variables, thereby enriching the overall analysis of EMI's effectiveness in educational contexts.

Limitations

The following restrictions are recognized to initiate further research from different perspectives: For instance, it had a small sample size, particularly focusing on general science teachers at a specific study site. It would have been better if wider areas had been included and other disciplines, such as mathematics, could be added. Similarly, other teacher attributes like teachers' workload, salary, and performance rating could be incorporated. Likewise, using a qualitative method to support outcomes creates more chances and enhances the result. Ultimately, a correlational study that examines associations fails to assess causal relationships between variables and paves the way for further investigations.

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Exploring the interplay between emotional intelligence and academic performance of undergraduate university students

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Abstract

This study aimed to investigate the relationship between perceived emotional intelligence and students' academic achievement. To this end, a quantitative research approach with a correlational design was employed. Participants were randomly selected using a stratified sampling technique, resulting in a sample of 135 second- and third-year undergraduate psychology students. An emotional intelligence scale was administered to these participants, and the collected data were subsequently analyzed using both descriptive statistics (including mean, frequency, and percentage) and inferential statistics (including independent sample t-tests, one-way ANOVA, Pearson product-moment correlation, multiple regression analysis, and mediation analysis). The findings indicated that students' perceived emotional intelligence levels were above average. Group comparison analyses revealed that, among various socio-demographic variables, only sex showed a significant difference in emotional intelligence. Similarly, the analysis showed that only the parents' level of education significantly impacted students' academic performance. Furthermore, a statistically significant positive relationship was found between emotional intelligence and academic achievement. Additionally, linear multiple regression analysis revealed that emotional intelligence significantly contributed to academic performance. Mediation analysis further revealed that the relationship between emotional intelligence and academic achievement is partially mediated by sex. Finally, the study concludes with recommendations aimed at enhancing the academic achievement of students.

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Introduction

The pursuit of academic success has long been a focal point in education, with traditional metrics such as standardized test scores and GPAs serving as primary indicators of achievement. However, in recent years, scholars and educators have increasingly recognized the importance of factors beyond cognitive abilities in shaping students' academic outcomes. Among these factors, emotional intelligence (EI) has garnered significant attention for its potential to influence students' academic performance and overall well-being (Brackett et al.,

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2011). Defined as the ability to perceive, understand, regulate, and express emotions effectively (Salovey & Mayer, 1990), EI plays a significant role in shaping individuals' social interactions, decision-making processes, and overall well-being. In the context of education, scholars have increasingly recognized the importance of emotional intelligence for academic success (Goleman, 1995).

Theoretical frameworks such as the Mayer and Salovey (1997) model offer a comprehensive understanding of emotional intelligence by delineating its core components, namely, the ability to perceive emotions, use emotions to facilitate thinking, understand emotions, and manage emotions effectively. These components encompass intrapersonal skills related to self-awareness and self-regulation, as well as interpersonal skills involving empathy, communication, and social interaction. According to this model, emotional intelligence enhances individuals' capacity to adaptively respond to emotional stimuli, thereby influencing cognitive processes, decision-making, and behavior in academic contexts.

Numerous studies have demonstrated a positive association between emotional intelligence and academic performance (Mayer et al., 2008; Piqueras et al., 2019). Students with higher levels of emotional intelligence tend to exhibit better academic outcomes, including higher grades, standardized test scores, and graduation rates (Graziano et al., 2007; O'Connor et al., 2019). This relationship can be attributed to various factors, including the role of emotional intelligence in facilitating effective communication, problem-solving, and stress management skills, all of which are essential for academic success (Brackett et al., 2011; Zeidner et al., 2009).

However, the relationship between emotional intelligence and academic performance is not unidimensional; rather, it is influenced by a complex interplay of individual and contextual factors. One such set of factors is socio-demographic variables, including gender, socioeconomic status (SES), and cultural background. These socio-demographic factors have been shown to shape individuals' experiences, opportunities, and resources, thereby influencing their emotional intelligence development and academic outcomes (Schutte et al., 1998; Sirin, 2005).

Gender differences in emotional intelligence have been a topic of interest in research, with some studies revealing women’s higher score on emotional intelligence compared to men (Mayer et al., 2008; Schutte et al., 1998). Additionally, socio-economic status, as indicated by factors such as parental education and income level, has been consistently linked to academic achievement, with students from higher SES backgrounds generally exhibiting better academic outcomes (Sirin, 2005; Pong et al., 2010). Cultural background and ethnicity also play a significant role in shaping individuals' emotional experiences and expression styles, which may influence the effectiveness of emotional intelligence skills in academic settings (Matsumoto & Juang, 2013).

While previous research has examined the direct relationship between emotional intelligence and academic performance, fewer studies have explored the mediating role of socio-demographic variables in this relationship. Understanding how socio-demographic factors may moderate or mediate the association between emotional intelligence and academic achievement is crucial for developing targeted interventions to support students from diverse backgrounds. By identifying the mechanisms through which socio-demographic variables influence the relationship between emotional intelligence and academic

performance, educators and policymakers can design more effective strategies to promote student success and reduce disparities in educational outcomes. Therefore, this study seeks to address this gap in the literature by investigating the meditational role of socio-demographic variables on the relationship between emotional intelligence and academic performance among students.

Statement of the Problem

In the context of Ethiopia, where socio-economic disparities, cultural diversity, and educational challenges are prevalent, understanding the role of emotional intelligence in shaping academic outcomes is particularly pertinent. While numerous studies have examined the relationship between emotional intelligence and academic performance in various cultural contexts, there is a notable dearth of research specifically focused on Ethiopian students. In addition to the inadequacy of locally conducted studies, the results of these investigations demonstrate a lack of consistency. For example, Astatke (2019) identified a significant relationship between emotional intelligence and the academic achievement of college students. In contrast, studies by Yikitbelegn (2018) and Gemechu (2014) found no statistically significant relationship between emotional intelligence and academic performance.

Given these socio-cultural and educational dynamics, there is a pressing need for empirical research to examine the relationship between emotional intelligence and academic performance among Ethiopian students. By addressing this gap in the literature and contextualizing findings within Ethiopia's unique cultural and educational landscape, this study aims to provide valuable insights for educators, policymakers, and researchers seeking to promote holistic student development and enhance educational outcomes in Ethiopia. Thus, this study has investigated the extent to which emotional intelligence is associated with academic performance of university students.

To comprehensively address the issue under investigation, this study aimed to answer the following three basic research questions: (1) what is the nature of the relationship between emotional intelligence and academic performance among university students? (2) Does the emotional intelligence of undergraduate university students vary as a function of some socio-demographic variables, such as sex, years of study, and parental education levels? (3) What are the specific pathways through which socio-demographic variables influence the relationship between emotional intelligence and academic performance among university students?

Methods

Research Design

The primary objective of this study is to examine the correlation between emotional intelligence and academic performance among students. To ensure a systematic data collection and analysis process, a quantitative approach with a correlational research design was utilized. The correlational research design is well-suited for examining the relationships among two or more variables within the study participants, as these relationships are assessed

concurrently (Stangor, 2011). Besides, the quantitative research method was employed to gather numerical data, which helps to capture trends in the phenomena and generalize to a larger population while delving deeper into the issue (Bryman, 2006).

Sampling Techniques

The participants in this study were 2nd and 3rd year undergraduate school of psychology students at Addis Ababa University in both regular and extension programs. There were a total of 203 undergraduate students in this study, with varying numbers of male and female students in each group. The School of Psychology was chosen as the participant pool due to its large size and diverse socio-demographic factors.

To determine the sample size for this study, Yamane's (1967) formula was employed, taking into consideration the small population size. Based on this formula, a total of 135 students were randomly selected using the stratified sampling technique, according to the formula 203 /(1 + 203 * 0.052). However, out of the 135 students, only 126 students (with a response rate of 93.3%) successfully completed and returned the questionnaires.

Instrument

To gather the requisite data from study participants, a scale was employed as the primary instrument. This scale was meticulously adapted to capture specific socio-demographic variables believed to have a correlation with the primary study variables. The instrument was bifurcated into two distinct sections: one addressing socio-demographic variables and the other assessing emotional intelligence.

The section dedicated to general information collected data on gender, locality, Cumulative Grade Point Average (CGPA), years of study, age, religion, and parental educational attainment. To obtain data on CGPA, participants were asked to provide self-reported results.

The emotional intelligence component of the instrument was developed by Schutte, Malouff, Hall, Haggerty, Cooper, Golden, and Dorheim (1998) and comprises 33 items. As delineated by Ciarrochi et al. (2001), the scale evaluates various facets of emotional intelligence: ten items (5, 9, 15, 18, 19, 22, 25, 29, 32, 33) assess emotional perception; nine items (2, 3, 10, 12, 14, 21, 23, 28, 31) measure the management of one's own emotions; eight items (1, 4, 11, 13, 16, 24, 26, 30) gauge the management of others' emotions; and six items (6, 7, 8, 17, 20, 27) evaluate the utilization of emotions. The instrument employs a Likert scale format, where participants rate their agreement with each statement on a five-point scale, ranging from strongly agree (5) to strongly disagree (1).

Validity and Reliability of the Instrument

The questionnaire was adopted from a previously developed, validated, and used instrument. The cross-cultural validity of the scale was ensured through the translation of the scales into English language by language experts. To further validate the scales, the scale was translated into Amharic, local language, by language experts. After ensuring validity and reliability, the questionnaires were administered by the researcher in collaboration with instructors and students to gather the data.

The emotional intelligence measure instrument was developed by Schutte et al. (1998). They claim that the internal consistency of the instrument is very high, at 0.90. This instrument was also locally conducted, and its reliability was found to be 0.923 (Yikirbelegn, 2018) and 0.76 (Gemehu, 2014). Additionally, Pérez et al. (2005) indicated that this tool is used in many academic research studies and has a reliability estimate ranging from moderate to high (0.75-0.85). The current study has shown that the scale has an internal consistency of 0.83. Total scale scores are calculated by reverse coding items 5, 28, and 33, and then summing all items. Scores range from 33 to 165, with higher scores indicating a higher level of emotional intelligence.

Data Analysis Techniques

To analyze data, both descriptive and inferential statistical methods were used. Descriptive statistical methods were employed to investigate the levels of emotional intelligence and academic performance among the students. An independent t-test was used to determine if there was a statistically significant mean score difference in students' academic performance based on dichotomous demographic variables. To assess whether there was a significant mean difference in students' academic performance based on demographic variables with more than two categories (such as parents' level of education), one-way ANOVA was utilized. Pearson product-moment correlation was used to examine the relationship between demographic variables, emotional intelligence, and academic performance. Additionally, multiple regression analysis was employed to determine the extent to which emotional intelligence contributed to changes in students' academic performance.

Results

In this section, we analyzed the quantitative data obtained from the participants. The analysis was performed based on the objectives of the study, and the major findings are presented in tables along with their descriptions.

Socio-demographic Characteristics of Respondents

The study targeted second and third year psychology students from Addis Ababa University. A total of 126 students directly participated in the study. The profiles of the respondents are summarized in the Table 1.

Table 1

Socio-demographic Characteristics of Respondents

Variables	Categories	Frequency	Percent
Sex	Male	28	22.2
	Female	98	77.8
Program enrolled	Regular	44	34.9
	Extension	82	65.1
Batch	2nd Year	62	49.2
	3rd Year	64	50.8

Fathers' Educational level	Secondary School and Below	32	25.4
	Certificate and Diploma	34	27.0
	Degree and Above	60	47.6
Mothers' Educational level	Secondary School and Below	54	42.9
	Certificate or Diploma	35	27.7
	Degree and above	37	29.4
	Total	126	100.0

Table 1 presents the demographic characteristics of the research participants, including their gender, locality, program, and batch. Out of the 126 study participants, 22.2% were males and 77.8% were females. In terms of residence, the majority (93.7%) of participants grew up in urban areas, while only a small percentage (6.3%) lived in rural areas. The same table also shows that 34.9% of participants were enrolled in regular programs; while 65.1% were in extension programs. In terms of the participants' year of study, the table indicates that 49.2% were in year three and 50.8% were in year two.

Regarding the level of education achieved by the parents, the data reveals that the majority of fathers (47.6%) have completed a first degree or higher. A smaller percentage of fathers (25.4%) have completed secondary school or below, while 27% had a certificate or diploma. As for the mothers' level of education, the majority (42.9%) have completed secondary school or below. On the other hand, 29.4% of mothers had a degree or higher and 27.7% had a certificate or diploma.

Descriptive Analysis of Dimensions of Emotional Intelligence

To provide some insight into the amount and variety of academic performance and emotional intelligence in its entirety and throughout its aspects, descriptive statistical methods were used.

Table 2

Descriptive Analysis of Dimensions of EI and Academic Performance

Variables	Mean	Std. Deviation	Min.	Max.
Academic Performance (CGPA)	3.05	.54	2.00	3.93
Emotional Intelligence Total	124.67	13.19	68.00	149.00
Perception of Emotion	37.56	4.93	21.00	49.00
Managing Own Emotion	34.54	4.55	22.00	45.00
Managing Others' Emotion	29.79	4.12	12.00	37.00
Utilization of Emotion	22.78	3.77	12.00	29.00

Table 2 shows that the mean and standard deviation scores of students on emotional intelligence were 124.67 and 13.19, respectively. Based on the mean values obtained, it was found that the emotional intelligence and academic performance of university students were above the hypothesized mean.

When it comes to the dimensions of emotional intelligence, it was found that students scored higher means on the "Perception of emotion" component (M=37.56, SD=4.93),

followed by the "Managing Own Emotion" component (M=34.54, SD=4.55). The component with the lowest mean was "Utilization of emotion" (M=22.78, SD=3.77), while "Managing Others' emotion" had a mean of (M=29.79, SD=4.12). Thus, the mean values for all components of emotional intelligence were found to be moderate.

Exploring Means Differences among Groups

One of the research questions addressed was whether undergraduate university students' emotional intelligence differs according to certain socio-demographic factors. To determine the presence of variation, independent t-tests and one-way ANOVA were performed, depending on the number of variable categories.

Independent *t-test*

Independent t-tests were performed to assess whether there were significant differences in the means of students' academic performance (CGPA) and Emotional Intelligence based on the participants' Gender, program of study, Year of study (Batch), and Locality. Before conducting the independent samples t-tests, the assumption of homogeneity of variance was assessed using Levene's test. It was confirmed that the variance in scores was the same for both groups.

Table 3

EI and Academic Performance across Socio-demographic Variables

Variables		Categories	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Sex	Emotional Intelligence	Male	28	113.46	13.98	-5.698	.000*
		Female	98	127.87	11.11		
	Academic Performance	Male	28	2.99	.57	-.728	.485
		Female	98	3.07	.54		
Program	Emotional Intelligence	Regular	44	125.55	15.48	.546	.586
		Extension	82	124.20	11.87		
	Academic Performance	Regular	44	3.17	.45	1.774	.078
		Extension	82	2.99	.58		
Batch	Emotional Intelligence	2nd Year	62	123.05	14.20	-1.359	.177
		3rd Year	64	126.23	12.06		
	Academic Performance	2nd Year	62	3.07	.52	.374	.709
		3rd Year	64	3.04	.57		

Note. *P < 0.05

Table 3 shows that there were differences between male and female students in their mean scores on Emotional Intelligence and Academic Performance. The analysis results indicate that there was a statistically significant mean difference in Emotional Intelligence between males and females (t (124) = 5.698, P < 0.000). The effect size was found to be -1.02, indicating a large effect. However, there was no statistically significant mean difference in Academic Performance between males and females (t (124) = -0.705, P < 0.485). Furthermore, the results show that there were no statistically significant mean score

differences in students' Emotional Intelligence and Academic Performance based on their program of study and study year.

Table 4

Dimensions of Emotional Intelligence across Gender

EI Dimensions	Gender	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Perception of Emotion	Male	28	34.9643	4.94774	-3.269	.001*
	Female	98	38.2959	4.70185		
Managing Others Emotion	Male	28	27.4643	4.54999	-3.549	.001*
	Female	98	30.4592	3.75038		
Managing Own Emotion	Male	28	31.2857	4.91300	-4.633	.000*
	Female	98	35.4694	3.99795		
Utilization of Emotion	Male	28	19.7500	4.21307	-5.317	.000*
	Female	98	23.6429	3.15983		

Note. *P < 0.05

As shown in Table 4, there were statistically significant differences in all dimensions of emotional intelligence between male and female students. It was found that there was a significant mean difference between male and female students in Perception of Emotion (t (124) = -3.269, p <.001). The effect size was -0.59, indicating a moderate effect. The results also indicated a significant mean difference between male and female students in Managing Others' Emotion (t (124) = -3.549, p <.001). The effect size was -0.64, also indicating a moderate effect. Similarly, it was shown that there was a significant mean difference between male and female students in Managing Own Emotion (t (124) = 4.633, p <.000). The effect size was -0.83, indicating a large effect. Moreover, it was found that there was a significant mean difference between male and female students in Utilization of Emotion (t (124) = -5.317, p < .000). The effect size was -0.95, also indicating a large effect. On all four dimensions, females scored higher than males.

ANOVA (Analysis of Variance)

The one-way ANOVA was computed to determine if there is a variation in the mean scores of students' academic performance based on their parents' levels of education. Before conducting the analysis of variance (ANOVA), Levene's test was used to assess the assumption of homogeneity of variance. This test confirmed that the variance in scores is equal among the three groups.

Table 5

One Way ANOVA for Fathers' Level of Education

Sources of Variation	Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Between Groups	3.252	2	1.626	5.946	.003	.088
Within Groups	33.638	123	.273			
Total	36.890	125				

Note. *=The mean difference is significant at the 0.05 level.

Table 5 demonstrates that students' academic performance varies based on their fathers' educational backgrounds. Therefore, there is a significant mean score difference on academic performance among students based on their fathers' level of education ($F(2,123) = 1.626$, $p < 0.003$). The effect of fathers' education resulted in a medium effect size of .088, indicating that 8.8% of the variation in students' academic performance can be attributed to their fathers' level of education. However, since the ANOVA results do not indicate which specific groups showed differences, post hoc tests were conducted and the findings are summarized in Table 6.

Table 6

Post Hoc Tests for Fathers' Educational Level

Measure	(I) Fathers Education	(J) Fathers Education	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Secondary School & Below	College Certificate or Diploma	-.09836	.12880	.726
		Degree & Above	-.36435*	.11447	.005
	College Certificate or Diploma	Secondary School & Below	.09836	.12880	.726
		Degree & Above	-.26599	.11226	.050
	Degree & Above	Secondary School & Below	.36435*	.11447	.005
		College Certificate or Diploma	.26599	.11226	.050

Note. *= The mean difference is significant at the 0.05 level.

As shown in table 6, the significant difference in academic performance was observed only between two groups among the three categories of fathers' level of education. Students whose fathers' highest level of education is secondary school and below showed a significant difference in academic performance compared to those students whose fathers' highest level of education is a degree and above.

Table 7

One Way ANOVA for Mothers' Level of Education

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Between Groups	3.620	2	1.810	6.693	.002	.098
Within Groups	33.269	123	.270			
Total	36.890	125				

Note. *= The mean difference is significant at the 0.05 level.

The above ANOVA summary table (Table 7) indicates a difference in academic performance among students based on their mothers' educational backgrounds. Specifically, there is a significant difference in mean scores of academic performance across different

levels of mothers' education ($F(2,123) = 6.693$, $p < 0.002$)). Additionally, in order to determine the effect size of this result, the most commonly used effect size statistic, eta squared, was calculated. The effect of mothers' education yielded a medium effect size of .098, indicating that 9.8% of the variance in students' academic performance was explained by their mothers' level of education. Since the ANOVA result does not specify the groups between whom the differences were found, post hoc tests were conducted and the results are summarized in Table 8.

Table 8

Post Hoc Tests for Mothers' Educational Level

Measure	(I) Mothers' Education	(J) Mothers' Education	Mean Difference (I-J)	Std. Error	Sig.
Tukey HSD	Secondary School & Below	College Certificate or Diploma	-.18852	.11286	.221
		Degree & Above	-.40528*	.11099	.001
	College Certificate or Diploma	Secondary School & Below	.18852	.11286	.221
		Degree & Above	-.21676	.12263	.185
	Degree & Above	Secondary School & Below	.40528*	.11099	.001
		College Certificate or Diploma	.21676	.12263	.185

Note. *= The mean difference is significant at the 0.05 level.

As shown in Table 8, there was a significant difference in academic performance between two groups among the three categories of mothers' level of education. Specifically, students whose mothers' highest level of education is secondary school and below showed significantly lower academic performance compared to those whose mothers' highest level of education is a degree or higher.

Exploring Relationships among Variables

This study aimed to investigate the nature of the connection between university students' academic performance and emotional intelligence. Both correlation and regression analysis were carried out to sufficiently ascertain whether there is a statistically significant link between the variables.

Correlation Analysis

This section presents the results of the Pearson Product-Moment Correlation, which was conducted to determine if there were any significant correlations between the dimensions of emotional intelligence and academic performance.

Table 9

Inter-correlation Matrix of among study Variables

	1	2	3	4	5	6
1. Academic Performance, CGPA	-					
2. Emotional Intelligence Composite	.275**	-				
3. Perceiving Emotion	.172	.754**	-			
4. Managing Others Emotion	.281**	.751**	.462**	-		
5. Managing Own Emotion	.284**	.773**	.315**	.475**	-	
6. Utilizing Emotion	.090	.761**	.446**	.360**	.569**	-

Note. **= Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The academic performance of students, as shown in Table 9, has a significant correlation with their emotional intelligence. Specifically, emotional intelligence has a moderate, positive, and significant correlation with academic performance (r=.275). The results indicated a fairly positive correlation coefficient between CGPA and the various dimensions of emotional intelligence; as seen in the correlation matrix. Among the dimensions of emotional intelligence, Managing Own Emotion (r=.284) and Managing Others Emotion (r=.281) show a statistically significant positive correlation. However, the other two dimensions, Perceiving Emotions (r=.172) and Utilization of Emotions (r=.090), demonstrate positive but non-statistically significant correlations with students' academic performance.

Multiple Regression Analysis

Before conducting regression analysis, an attempt was made to check the tenability of assumptions. These assumptions include multicollinearity, outliers, linearity, homoscedasticity, and independence of residuals. Multicollinearity diagnosis revealed values of tolerance greater than .10 and values of VIF less than 10 suggesting that the assumption was not violated. Furthermore, the assumptions of lack of outliers, linearity, homoscedasticity, and independence of residuals were checked using the Normal Probability Plot (P-P) of the Regression Standardized Residual and Scatterplots results again showing that these assumptions were not violated.

To determine the significant contribution of the independent variables to the variation in the dependent variable, a standard regression was conducted. The results of this analysis are summarized in Table 10.

Table 10

Regression Coefficients for Emotional Intelligence, Gender and Parent's Level of Education

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.330	.418		3.183	.002
	Emotional Intelligence	.013	.004	.326	3.624	.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Gender	-.347	.128	-.266	-2.707	.008
Fathers Education	.145	.059	.221	2.472	.015
Mothers Education	.184	.058	.285	3.156	.002

Note. R = .475, R^2 =.226, $F_{(4, 221)}$ =8.809, P < .000

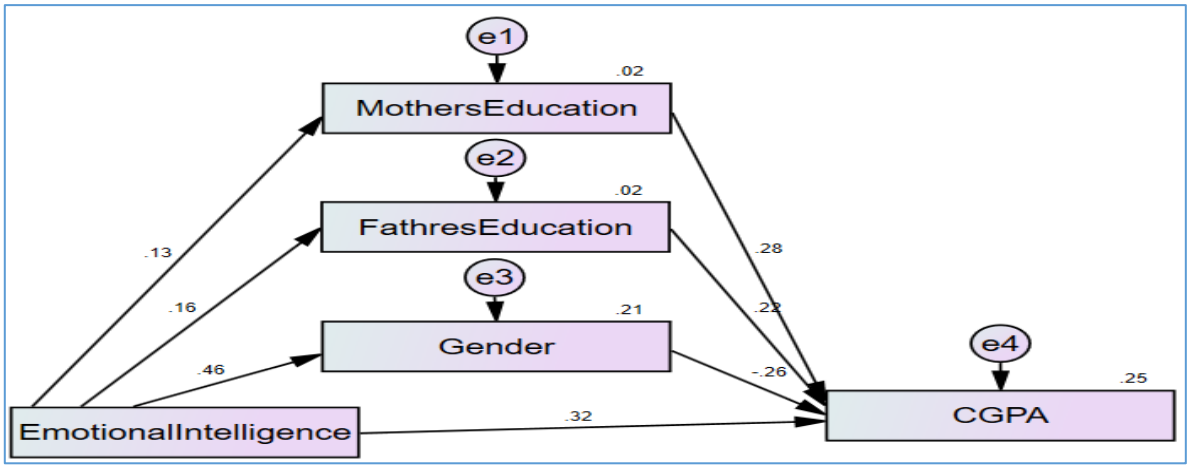
As shown in Table 10, there is a significant correlation (p < .01) between the criterion variable and predictor variables. The coefficient of determination (R^2 = .252) indicates that 25.2% of the variation in the criterion variable is accounted for by the combined effect of the predictor variables. The measure of relative importance of each predictor variable reveals that all of the coefficients for the predictor variables were found to be significant contributors to the regression equation. Specifically, the highest contribution was accounted for by mothers' level of education (B = .321, p < .001), followed by emotional intelligence (B = .307, p < .001).

Mediation Analysis

The third and final research question of this study aimed to determine whether socio-demographic variables serve as a mediator between emotional intelligence and academic performance. To investigate this, we conducted path analysis, which examined the direct influence of exogenous variables on the endogenous variable, as well as the mediating role of the variables. The analysis of the mediation role of three socio-demographic variables is presented in the following paragraphs.

Figure 1

Standardized Paths and Parameters of the Fit Academic Performance Prediction Model



The study assessed the mediating role of socio-demographic variables such as Sex, Fathers' education and Mothers' education) on the relationship between Emotional Intelligence and Academic Performance. The results revealed a significant indirect effect of Emotional Intelligence on Academic Performance through sex (b = -.005, t = -2.50, p < .010). The study also found an insignificant indirect effect of impact of Emotional

Intelligence through Mothers' Education on Academic Performance emotional intelligence (b = .001, t = 1.00, p < .199).

Similarly, the study found an insignificant indirect effect of Emotional Intelligence through Fathers' Education on Academic Performance (b = .001, t = 1.00, p < 0.063). Furthermore, the direct effect of emotional intelligence on academic performance in the presence of the mediators was also found significant (b = .013, p <.001). Hence, one of the socio-demographic variables, Sex, partially mediated the relationship between emotional intelligence and academic performance. The summary of the mediation is presented in Table 11.

Table 11

Mediation Analysis Summary

Relationship	Indirect Effect	Confidence Interval		t-statistics	P-value	Conclusion
		Lower Bound	Upper Bound			
EI -> Sex -> CGPA	-.005	-.010	.001	-2.50	.010	Partial Mediation
EI -> FE -> CGPA	.001	.000	.005	1.00	.063	No Mediation
EI -> ME -> CGPA	.001	-.001	.005	1.00	.199	No Mediation

Note. EI: Emotional Intelligence, FE: Fathers' Education, ME: Mothers' Education

Discussion

This study aimed to examine how perceived emotional intelligence relates to the academic performance of undergraduate students. Once the data was gathered from the participants, various statistical methods were used to analyze it. Different results were obtained in relation to the three research questions posed in this study. Therefore, in this section we discuss the findings by comparing and contrasting them with previous research findings.

Relationship between Emotional Intelligence and Academic Performance

The first research question addressed in this study was whether or not there is a relationship between emotional intelligence and academic performance. The results of the earson product moment correlation coefficient demonstrated a significant and positive correlation between emotional intelligence and students' academic achievement. This suggests that as students' emotional intelligence increases, so does their academic performance, and vice versa. Specifically, the dimensions of managing own emotion and managing others emotion showed statistically significant and positive relationships, while perceiving emotions and utilization of emotions also exhibited positive and statistically significant correlations with students' academic performance. These findings are in line with previous studies, which have consistently shown a significant and positive correlation between emotional intelligence and academic achievement (Yadesa, 2021; Yilmaz, 2015; Lanciano & Curci, 2014). However, it should be noted that two studies conducted in the same setting with a similar population did not find a statistically significant relationship between emotional intelligence and academic achievement (Yikirbelegn, 2018; Gemechu, 2014).

Emotional Intelligence across Socio-demographic Variables

The second research question of this study was to determine whether there are differences in emotional intelligence across socio-demographic factors. The results of the independent t-test showed a statistically significant difference between male and female participants in terms of their overall level of emotional intelligence. In this regards, the findings indicate that females are more emotionally intelligent than males. This difference was observed in all components of emotional intelligence, with females scoring higher than males.

These findings are consistent with previous studies (Yikirbelegn, 2018; Yilmaz, 2015) which have also found that females tend to score higher on measures of emotional intelligence compared to males. However, it is important to note that a study by Shahzad & Bagum (2012) on gender differences in Trait Emotional Intelligence reported opposite findings. Additionally, other local empirical studies conducted in similar settings have reported no significant difference in overall emotional intelligence between male and female university students (Gemechu, 2014; Meshkat & Nejati, 2017; Yadesa, 2021).

Mediation Role of Socio-demographic Variables

The third research question of this study was to determine whether socio-demographic factors mediate the relationship between emotional intelligence and academic performance. The results showed that one of the socio-demographic variables, Sex, partially mediated the relationship between emotional intelligence and academic performance.

The result is consistent with the findings of empirical study conducted by Gomez-Baya et al. (2017) among similar population, university students. They found that gender significantly mediated the relationship between emotional intelligence and academic performance, with females demonstrating stronger correlations between emotional intelligence and academic achievement compared to males. The current study also showed that parental level of education does not significantly mediated the relationship between emotional intelligence and academic performance.

Contrarily, a study conducted by Lee and Sulaiman (2019) among secondary school students revealed that parental education level partially mediated the relationship between emotional intelligence and academic performance, suggesting that students with parents having higher education levels tended to exhibit stronger correlations between emotional intelligence and academic achievement.

Conclusions and Recommendations

The study's findings indicate several key conclusions: Undergraduate psychology students at Addis Ababa University exhibit elevated levels of emotional intelligence, suggesting they possess the skills necessary to understand and manage both their own emotions and those of others, which in turn supports their ability to navigate academic challenges effectively and sustain strong academic performance. Notably, female students demonstrate significantly higher emotional intelligence than their male peers, indicating a greater capacity for emotional awareness and management. Additionally, academic

performance is significantly influenced by the educational attainment of students' parents; specifically, students whose fathers have only a certificate-level education or whose mothers have elementary education or less tend to perform worse academically compared to those with more highly educated parents. Correlation and regression analyses further reveal a robust positive relationship between emotional intelligence and academic performance, suggesting that higher emotional intelligence is associated with better academic outcomes. Moreover, emotional intelligence mediates the impact of socio-demographic factors, such as gender and parental education levels, on academic performance, highlighting its role as a critical intermediary in these relationships.

To enhance student outcomes based on the study's findings, it is recommended that Higher Education Institutions implement targeted emotional intelligence training programs to build upon the existing competencies of students. Institutions should also consider gender-sensitive approaches to support emotional development equitably among male and female students. Given the influence of parental education on academic performance, providing additional support and resources to students from less-advantaged backgrounds could help mitigate disparities. Furthermore, incorporating emotional intelligence as a key component of academic support services may leverage its positive correlation with academic success. Finally, further research should be conducted to explore the complex interactions between emotional intelligence, socio-demographic factors, and academic performance, aiming to refine strategies that can enhance student success across diverse populations.

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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The influence of deans' transactional leadership behaviors on research productivity in public universities: The mediating effect of workplace learning capability

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Abstract

This study examined the effect of transactional leadership behaviors on research productivity in public universities, with organizational learning capability serving as a mediating factor. A quantitative research approach focusing on correlational design was utilized. Data were collected through a survey questionnaire administered to 519 respondents. Both measurement and structural model analyses were conducted, with deans, colleges, and individual academics serving as units of analysis. The findings revealed that deans' contingent reward leadership behaviors significantly and positively influenced the research productivity of academics and colleges, even when controlling for workplace learning capability. Furthermore, the study demonstrated that deans' contingent rewards and active-by-exception behaviors significantly and positively impacted workplace learning capability, accounting for 44.5% of the variance, with moderate and small effect sizes, respectively. Additionally, organizational learning capability exhibited a significant positive effect, explaining 54% of the variance in research productivity and demonstrating a moderate effect size, which indicates an unexplained variance of 46%. Bootstrapping tests confirmed that workplace learning capability partially and fully mediates the relationship between deans' transactional leadership behaviors and research productivity. Consequently, it is imperative for college deans to enhance their contingent reward leadership behaviors and foster workplace learning capabilities to maximize their impact on research productivity.

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Introduction

The degree of commitment by academics to research production and publication, as well as the institution's capacity for learning, the performance of college research output, dissemination, utilization, and overall success, is significantly influenced by the leadership styles of college deans within their respective universities (Thanh & Quang, 2022; Pihie et al., 2011; Quintana et al, 2014; Jung & Avolio, 2000). Consequently, when college deans

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adopt appropriate leadership styles, there is a notable increase in academics' engagement in research production and publication, leading to improved overall work performance and enhanced organizational success (Thanh & Quang, 2022; Vera & Crossan, 2004).

The leadership styles adopted and practiced by college deans in public universities exhibit significant variations between developed and developing countries, largely due to differences in leadership contingent contexts. In developing nations such as Ethiopia, transactional leadership styles are predominantly employed. This preference can be attributed to the functional characteristics that define many modern organizations, including clear expectations between leaders and followers, established organizational structures, defined chains of command, role identification, adherence to rules, as well as motivation through rewards and penalties (Young et al., 2021).

Moreover, the institutional context—characterized by a relatively low maturity level among both leaders and followers, limited flexibility, and a lack of adaptability to change—coupled with extrinsic factors such as social, political, and cultural influences, often hinders the adoption of more advanced and contemporary leadership styles or theories. Such styles include transformational, democratic, servant, distributive, and ethical leadership (Yukl & Muhsud, 2010). Furthermore, it is important to note that many of the contemporary leadership theories have their roots in Western socio-cultural contexts, which may not resonate with the experiences and perspectives of indigenous populations in non-Western nations (Ly, 2020).

To this end, many scholars (e.g., Johns, 2023; Nazarian et al., 2017) have observed that if transactional leadership behaviors within large institutions are supported by conducive contexts—such as flexibility, stability, a culture of learning, innovation, and adaptability—there is a significant opportunity for these leadership styles to evolve toward more transformational, democratic, and other progressive approaches.

Ethiopian university college deans employ transactional leadership styles to effectively manage the day-to-day operations within their respective institutions. They utilize contingent rewards to encourage positive work behaviors among faculty members, while also implementing corrective measures to deter undesirable behaviors. Moreover, deans may opt to delay intervention in response to minor infractions, provided that such actions are deemed trivial, less harmful, and pose minimal risk (Ahmed et al., 2021; Podsakoff et al., 2006; Jung & Avolio, 2000). Transactional leadership facilitates the establishment of clear goals, incentives, and feedback mechanisms, thereby enhancing motivation, performance, and organizational learning among academic staff. The specific nature and intensity of transactional leadership behaviors can vary according to context and the individual attributes of employees. Particularly, certain transactional behaviors, particularly contingent rewards, may prove more effective than others—such as active and passive leadership by exception—in fostering workplace learning capabilities and research productivity.

Organizational learning capability acts as a mediating construct that influences the relationship between deans' transactional leadership behaviors and academics' research productivity (Jansen et al., 2009; Vera & Crossan, 2004). It is regarded as a strategic leadership concept and a source of human capital heterogeneity, potentially serving as a foundation for institutional competitive advantage (Jansen et al., 2009; Vera & Crossan, 2004). To ensure long-term sustainability and success, organizations must adapt and innovate

in response to evolving market conditions, competition, customer needs, technological advancements, and other contextual factors.

Organizational learning and the concept of the learning organization are often perceived as synonymous; however, a critical examination by scholars reveals notable differences between the two. Organizational learning occurs when academics collaboratively analyze and synthesize information from diverse sources while engaging with one another to achieve organizational objectives. In contrast, a learning organization is characterized by its ability to transcend the limitations imposed by past experiences, continuously adapting and discovering what is most effective and efficient for its operations (Yaşlıoğlua et al., 2014).

Some organizations excel in both concepts, while others, particularly in developing African countries, struggle with one or both. Organizational learning—be it formal, informal, or non-formal—serves as a fundamental source of strategic thinking (Jansen et al., 2009; Vera & Crossan, 2004; Senge, 1990) and is pivotal for gaining a competitive advantage (Jerez-Go´meza et al., 2005; Senge,1990; Liao et al., 2017). This is especially pertinent to the development of research outputs in universities, ultimately facilitating the achievement of short- and long-term goals that lead to institutional success.

Consequently, numerous scholars support the hypothesis that the capability for workplace learning positively influences research productivity in public universities, contingent upon the prevailing practices in place (HERQA, 2008; Alemu, 2023). Furthermore, dynamic capabilities and the resource-based view theory—including valuable, rare, inimitable, and non-substitutable (VRIN) resources—are essential to enhancing workplace learning capabilities, although such resources remain insufficient in Ethiopia (Fosci et al., 2019; Zulfqar et al, 2021; Zhou et al, 2019).

Research represents a systematic endeavor to seek and investigate solutions to prevailing problems while acquiring new knowledge. Its primary objectives encompass the description, prediction, and control of various phenomena. In the context of Ethiopia's first-generation universities, research encompasses the processes of production, dissemination, and utilization, in accordance with their foundational mission (MOSHE, 2020).

Research production primarily focuses on the quantity and quality of projects undertaken (Fosci et al., 2019). Research dissemination pertains to the frequency and impact of publications in indexed sources, as well as metrics such as the h-index and citation counts (Kpolovie & Dorgu, 2019). Similarly, research utilization involves the extent to which individuals, institutions, or nations leverage research outputs to address challenges, manage daily operations, make informed decisions, and shape policy issues (Fosci et al., 2019; Kpolovie & Dorgu, 2019).

The status of these research activities at universities in the Amhara Regional State has not been systematically investigated against global, African, national, and institutional standards (Kpolovie & Dorgue, 2019). This limitation may stem from misalignments among leadership styles, the contextual factors associated with both academic staff and leaders, and the varying levels of research productivity across institutions. In this context, HERQA (2008) reported in its external quality audit of first-generation universities, including Bahir Dar and Gondar universities, that research productivity in Ethiopia's first-generation universities was markedly low. Contributing factors included a shortage of qualified academic personnel, insufficient time allocated for research, inadequate incentives, inadequate funding, and

ineffective leadership. This was particularly noteworthy given the presence of established hierarchical roles, such as the Vice President for Research and Community Service, research and publication officials at the institutional level, and the Vice Dean for Research and Postgraduate Studies at the college level.

This study, therefore, aims to explore the relationships among transactional leadership styles, organizational learning capability, and research productivity, which are considered key determinants of sustainable research productivity and related developments in universities located in the Amhara regional state of Ethiopia. To this end, the following hypotheses were formulated: (1) there exists a significant positive relationship between academics' perceptions of deans' transactional leadership behaviors and their research productivity within their respective colleges in the Amhara regional state; (2) the perceived transactional leadership behaviors of deans significantly influence the development of academics' workplace learning capabilities in their respective colleges; (3) a significant relationship exists between the organizational learning capability of colleges and their research productivity; and (4) workplace learning capability plays a significant mediating role in the relationship between academics' perceptions of deans' transactional leadership behaviors and their research productivity in their respective colleges.

Theoretical Framework

The theoretical framework of this study is grounded in multiple interrelated theoretical perspectives, specifically the resource-based view (RBV), dynamic capabilities theory, and leadership theories. The RBV posits that organizations can attain and maintain a competitive advantage through the strategic utilization of valuable, rare, inimitable, and non-substitutable (VRIN) resources (Zulfqar et al., 2021). These resources may be both tangible and intangible, encompassing elements such as human capital, physical assets, intellectual property, and organizational culture.

Additionally, dynamic capabilities refer to an organization’s capacity to sense, seize, and reconfigure its resources and processes in response to evolving environmental conditions. Such dynamic capabilities are crucial for universities aiming to establish and sustain a competitive advantage within volatile labor markets (Zhou et al., 2019; Lopez-Cabrales et al., 2016).

Methods

Research Design

This study utilized a positivist paradigm and a correlational design, employing structural equation modeling. It aimed to provide robust evidence regarding the impact of academics' perceptions of deans' transactional leadership behaviors on both the workplace learning capabilities of colleges and the research productivity of academic staff and institutions.

Participants

A total of 519 academics participated in this study, with 197 from Bahir Dar University (BDU), 165 from the University of Gondar (UoG), and 157 from Debre Markos

University (DMU). These institutions, which represent both first and second-generation universities in Ethiopia's Amhara regional state, were selected randomly through a lottery method from a pool of five universities (two first-generation and three second-generation). The inclusion of both generations was based on their similar characteristics in terms of faculty size, technological resources, economic capacity, and infrastructure. Given that the researchers were affiliated with these universities and belonged to the Amhara ethnic group, they had a unique advantage in accessing participants and identifying pertinent issues for the study.

As far as the demographic characteristics of the participants is concerned, 450 (86.7%) were male academics, while 69 (13.3%) were female academics. In terms of educational qualifications, 23 (4.43%) held a Bachelor's degree, 393 (75.72%) possessed a Master's degree, and the remaining 103 (19.84%) were Doctoral degree holders. Furthermore, with regard to teaching experience, 172 (33.14%) had fewer than 5 years of experience, 206 (39.69%) had between 5 to 10 years of experience, and 141 (27.16%) had more than 10 years of teaching experience.

Instrumentation

Contingent rewards refer to the availability and equitable distribution of reinforcements or rewards as a means of motivating followers, a concept underscored by various scholars in the field. To measure this construct, four items were developed with a six-point Likert-type scale, ranging from 1 (strongly disagree) to 6 (strongly agree). Example items included: "Deans in your college make clear what subordinates are rewarded for achieving performance goals" and "Deans in your college make specific discussions regarding who is responsible for meeting targets". The coefficient alpha for internal consistency reliability was .93, exceeding the threshold of .70, indicating a highly reliable scale for measuring deans' contingent reward transactional leadership behavior (Collier, 2020; Kline, 2016). All leadership items were derived from the standardized multi-factor leadership questionnaire (SMFLQ) developed by Bass, Avolio, Jung, and Berson (2003).

The Leadership by Exception—Active scale measures college deans' non-leadership behavior or delayed intervention to followers' misbehavior or non-accomplishment of tasks as an approach to leadership. It was measured with 4 items, including: "Your college deans focus their attention on instructors' irregularities, mistakes, exceptions, and deviations from established standards," and "Your college dean devotes their full attention to addressing mistakes, complaints, and failures". The coefficient alpha value was 0.944 (>0.7) indicating a high level of internal consistency among the items.

Conversely, Leadership by Exception—Passive captures the non-interventionist tendencies of college deans, whereby they delay intervening in instances of follower misconduct or non-fulfillment of responsibilities. This dimension was assessed through four items, including: "Your college deans do not intervene until problems become serious," and "Your college deans regard academics as a secondary priority; they refrain from addressing issues until the college is in significant disarray." The coefficient alpha for this scale was 0.944 (greater than 0.70), demonstrating strong internal consistency among the measurement items.

The organizational learning capability scale utilized in this study was adapted from the work of Jerez-Gómez et al. (2005), which draws upon Senge's five disciplines of learning and Mets' three-dimensional learning model. The learning capabilities of the deans and academic staff were assessed with regard to several key dimensions, including leaders' commitment to fostering a learning culture, perspectives on system interconnectivity, openness to experimentation, and behaviors related to knowledge transfer and integration. These elements collectively formed a primary construct, which was evaluated through a 10-item scale encompassing the aforementioned dimensions. The reliability of this scale was evidenced by a coefficient alpha of 0.921, indicating a high level of internal consistency among the items. Sample items for this construct include: "My college deans promote experimentation and innovation as a means of enhancing work processes"; "The performance of my college has been positively impacted by the new knowledge, skills, and affective learning acquired over the past five years"; and "Within my college's culture, instructors regularly express their opinions and provide suggestions regarding procedural and methodological practices".

Following a comprehensive factor analysis, six items were selected to assess the development of research and publication performance. The Balanced Scorecard (BSC) performance measurement model provided the framework for formulating these scale items. These six items were measured on a 6-point Likert-type scale, with response options ranging from 1 (strongly disagree) to 6 (strongly agree). Representative sample items include: "The research presentations from your college effectively promote critical thinking," "The research outputs and publications from your college foster innovation and ensure the preservation of knowledge for future generations", and "The research conducted by your college addresses pressing societal issues such as poor lifestyle choices, injustice, food insecurity, health disparities, and the quality of education". The reliability coefficient, measured using Cronbach's alpha for this sub-scale, was found to be 0.903, indicating a high level of internal consistency.

Instrument Validation

Table1

Measurement Model fit Indices (CFA)

CFA	CMIN	DF	P	PCMIN/DF	RMSEA	SRMR	GFI	CFI	TLI
Initial First-Order CFA	935.041	314	.000	2.978	.062	0.066	0.882	0.938	0.930
Modified First-Order CFA	684.315	305	.000	2.244	0.049	0.064	0.913	0.962	0.956
Difference	250.726	9		0.734	0.013	0.002	0.031	0.024	0.026

Note. CFA= confirmatory factor analysis, CMIN= Chi-square minimum ($\chi 2$), CMIN/DF= Chi-square/degree-of-freedom ratio, RMSEA= Root Mean Square Error of Approximation, CFI= Comparative Fit Index, TLI=Tucker-Lewis Index, SRMR=standardized root mean square residual. Fit indices acceptable criteria= CMIN/DF (< 5.0), RMSEA and SRMR < .08, (CFI, TLI, > 0.90)

Standardized Item Loadings, R^2 and P-values of Measurement Model CFA

All standardized factor loadings (βs), as shown in Table 2, were greater than 0.6. For instance, the standardized factor loading ranged from 0.68 to 0.83, p< .001, for the indicators

of research productivity. The indices of workplace learning abilities also had standardized factor loadings that ranged from 0.682 to 0.771, p< .001.

Table 2

Confirmatory Factor Analysis Results

Latent Constructs	# of Items	Cronbac alpha (α)	Range of R^2	Range of β	P-Value
Research Productivity (RP)	6	0.903	0.463-0.680	0.680-0.825	P<0.001
Workplace learning Capability(WPLC)	9	0.921	0.465-0.601	0.682-0.771	P<0.001
Leadership Contingent Rewards(LCR)	4	0.930	0.668-0.830	0.817-0.911	P<0.001
Leadership By Exception Active(LBEA)	4	0.858	0.419-0.773	0.648-0.879	P<0.001
Leadership By Exception Passive(LBEP)	4	0.944	0.710-0.874	0.843-0.935	P<0.001

Construct Validity and Reliability Assessment

A confirmatory factor analysis (CFA) was used to assess the constructs' composite reliability, average variance extracted (AVE), convergent validity, and discriminant validity. CFA is a crucial statistical technique for evaluating the validity and reliability of theoretical notions (Brown, 2015).

Composite Reliability

Another popular method for evaluating construct reliability is composite reliability. It is also known as the factor rho coefficient or Raykov's Rho (r) (Collier, 2020; Kline, 2016). The composite reliability has the same range and cutoff criterion for the acceptable level of dependability, i.e., >.70, as Cronbach's alpha level for internal consistency reliability (Collier, 2020). With this criterion, Table 3's composite reliability values, which revealed better composite reliability of the constructs, ranged from 0.80 for the leadership by exception passive construct to 0.97 for the leadership contingent rewards construct.

Convergent Validity

It regulates construct validity via stipulating the extent in which every indicator of a given concept is gauging a construct they are intended to measure (Collier, 2020). The parameter used for checking convergent validity accounted to AVE value greater than .50 (Collier, 2020; Hair et al., 2019). As shown in Table 3, AVE values for all constructs ranged from 0.53 for the indicators of work-place learning capability to 0.84 for the indicators of leadership contingent rewards, which suggested adequate convergent validity across constructs.

Discriminant Validity

This kind of cogency assessments of a construct is determined using the shared variance technique (Collier, 2020) and to prove the absence of excessive correlation issues. In the shared variance method, as Collier (2020) points out, the discriminant validity of each construct can be determined by computing the shared variances between constructs and

comparing them to the AVE values for each construct. Similarly, the discriminant validity can be established if inter-correlations among a set of constructs are not too high (commonly, < .85) (Brown, 2015; Collier, 2020; Kline, 2016). In this study, all coefficients for inter-correlations between constructs were below 0.85, which ranged from -0.166 for the relationship between the colleges' research production development, and deans' leadership by exception passive behavior to 0.625 for the relationship between the colleges' research production development and the colleges' workplace learning capability. This proof demonstrated the discriminatory nature of every construct used in the current study. Similar to this, the shared variance between organizational learning capability and research product development was (0.625)2 = 0.39, which was much lower than the AVE for organizational learning capability (0.53) or for research product development (0.61). This evidence demonstrated the discriminatory nature of these notions. Also, the shared variance between organizational learning capability and leadership contingent reward behavior (0.573)2 = 0.32 is significantly lower than the AVE for organizational learning capability (0.53) or AVE for contingent reward leadership conduct (0.84). This evidence demonstrated the discriminatory nature of these constructs. In conclusion, all constructs taken into account in the current investigation demonstrated good discriminant validity.

Table 3

Inter-correlations, Composite Reliability, and Average Variance Extracted Generated from CFA

Constructs	CR	AVE	MxSV	1	2	3	4	5
1.RP	0.94	0.61	0.39	1				
2.WPLC	0.945	0.53	0.39	.625*	1			
3.LdCR	0.97	0.84	0.32	.496*	.573*	1		
4.LdBEA	0.92	0.65	0.18	.241*	.271*	.210*	1	
5. LdBEP	.80	.80	0.18	-.166*	-.260	.234*	.426*	1

Note. CR=Composite reliability, AVE= Average variance extracted, MxSV=Maximum shared variance *P<.001

Ethical Considerations

Participants in the study were fully informed about the voluntary nature of their involvement. They were assured that the data collected would be utilized anonymously and strictly for research purposes. Initially, the authors obtained oral consent from the participants and were subsequently followed by their signing of a consent form to formally affirm their voluntary participation in the research. This process was duly approved by the research ethics committee.

Results

Effect of Structural Model Test on Hypothesized Path Influences

Table 4

Structural Model Test Results Predicting research productivity from Transactional Leadership Style Dimensions and Contingency Context Factors (WPLC)

Hypothesized Relationships	Beta	C.R.	P. Value	Decision
1.TrzLdCR → WPLC	.553	10.786	P<.001	Supported
2. TrzLdBEA → WPLC	.210	4.674	P<.001	Supported
3. TrzLdBEP → WPLC	-.098	-2.193	P=.028	Supported
4. WPLC → RPPD	.659	10.537	P<.001	Supported
5. TrzLdCR → RPPD	.122	2.259	P=.024	Significant
6. TrzLdBEA → RPPD	.030	.706	P=.480	Not Significant
7.TrzLdBEP → RPPD	.066	1.545	P=.122	Not Significant
Squared Multiple Correlation (R^2):				
RPPD	.540			
WPLC	.445			

Note. Model fit statistics: $\chi 2 = 684.315$, df= 305, p <.001, $\chi 2 /df = 2.244$, CFI = .962, TLI = .956, IFI=.962, PNFI=.811, PCFI=.836, RMSEA =.049 at 95%CI [.044, .054], and SRMR = .064, GFI=.913.

Results from the modified structural model test indicate that deans' contingent reward leadership behavior (S.E. = .047, p < .001, 95% CI [.462, .639], $f^2 = 0.22$) and deans' active leadership by exception behavior (S.E. = .044, p < .001, 95% CI [.122, .299], $f^2 = 0.068$) exert a significant positive influence on the development of workplace learning capabilities within their respective colleges. Conversely, passive leadership by exception behavior (S.E. = .035, p = .028, 95% CI [-.204, -.013], $f^2 = -0.063$) showed a significant negative effect on these capabilities. The standardized regression coefficients suggest that a one standard deviation increase in deans' contingent reward leadership behavior, active leadership by exception, and passive leadership by exception correspond to increases of .553, .210, and decreases of -.098 standard deviations, respectively, in the workplace learning capabilities of both deans and academics in their colleges. The squared multiple correlation value of .445 indicates that 44.5% of the variance in the workplace learning capabilities of deans and academics can be attributed to the combined influence of deans' contingent reward leadership and both active and passive leadership by exception behaviors. The underlying rationale for this hypothesis testing is that transactional leadership provides clear goals, incentives, and feedback, thereby enhancing research motivation, productivity performance, and overall workplace learning outcomes among academics.

The workplace learning capability of college deans and academics has a significant and positive impact on perceived research productivity, as evidenced by Path B ($\beta = 0.659$, C.R. = 10.537, p < 0.001). The effect size, measured by Cohn's $f^2 = 0.24$, indicates a medium effect of WPLC on research productivity. Moreover, a one standard deviation increase in WPLC correlates with a 0.569 standard deviation increase in research productivity. The squared multiple correlation coefficient of 0.54 suggests that WPLC accounts for 54% of the variance in research productivity, while the remaining 46% is attributed to other factors. According to dynamic capabilities theory, these findings imply that workplace learning capability enhances the acquisition, creation, sharing, and application of knowledge among academics. This, in turn, bolsters their sensing, seizing, and reconfiguring capacities. Consequently, these dynamic capabilities empower academics to generate and disseminate new knowledge, thereby improving both the quantity and quality of research productivity.

The leadership behaviors of deans, specifically in the realms of contingent rewards and active leadership by exception, have been found to exert a positive and significant direct

influence on the development of research and publication performance (Path C). The respective coefficients for these behaviors indicate substantial effects: contingent reward leadership behavior ($\beta = 0.510$, CR = 9.574, $p < 0.001$) and active leadership by exception ($\beta = 0.184$, CR = 3.769, $p < 0.001$). In contrast, passive leadership by exception demonstrated a non-significant direct influence on research and publication performance ($\beta = 0.006$, CR = 0.125, $p = 0.900$).

The squared multiple correlation coefficient for contingent reward leadership behavior (0.25) suggests a comparatively stronger impact on perceived research and publication performance in relation to active leadership by exception (0.058) and passive leadership by exception (-0.027). Besides, the effect size (f^2) for contingent reward leadership behavior (0.19) indicates a medium effect, whereas both active leadership by exception (0.054) and passive leadership by exception (-0.026) demonstrate a small effect size.

From the perspective of dynamic capabilities theory, these findings imply that the contingent rewards leadership behavior of deans can be classified as a distinct type of dynamic capability. Specifically, it plays a critical role in establishing clear goals, incentivizing positive academic behaviors, and providing feedback on academics' responses to tasks. Collectively, these factors significantly contribute to enhancing academic performance, as measured by research productivity indicators such as the number of research projects undertaken, indexed publications, conference paper presentations, innovative outputs, and citations.

College deans can enhance faculty research competencies and productivity through various strategies, including formal education, short-term training programs, and the organization of conferences or forums for knowledge exchange, as well as mentorship and research practice initiatives. Specific activities that can foster research competence and boost productivity include participation in research projects, workshops, seminars, and conferences; reading and reviewing scientific literature and publications; writing and publishing research papers, reports, and proposals; applying for research grants and funding opportunities; engaging in peer review processes; developing and maintaining a research portfolio and personal research plan; offering and seeking guidance from fellow researchers; exploring and capitalizing on collaborative research opportunities; utilizing and creating research tools and platforms; communicating and disseminating research findings and their implications to diverse audiences and media; and applying research knowledge to address real-world problems and contexts. Collectively, these activities constitute valuable VRIN resources within the Resource-Based View Theory and dynamic capabilities, which are critical for maintaining competitive advantages and achieving success in colleges and universities (Zulfqar et al., 2019).

Bootstrapping Significance Test of Mediation Analysis between Exogenous and Endogenous Constructs

Given that the constructs in the path analysis indicated significant structural relationships, mediation analysis was conducted to determine the direct and indirect effects of the exogenous latent variables—specifically, the dimensions of Deans' transactional leadership behavior—on the outcome variable of research productivity, with workplace learning capability serving as the mediator.

The mediation analysis revealed that deans' contingent reward leadership behavior had a significant direct effect (β = .122, p = .042) and a significant indirect effect (β = .362, 95% CI [.280, .471], p = .003) through WLC on instructors' perceived development of research and publication performance. Consequently, a significant total effect was observed (β = .486, p = .003). These findings indicate that WPLC partially mediates the relationship between deans' contingent rewards leadership behavior and the college's research production and dissemination at the respective university.

Similarly, deans' leadership by exception (active) exhibited a non-significant direct effect (β = .030, p = .494) but a significant indirect effect (β = .139, p = .005, 95% CI [.077, .201]) through WPLC on instructors' perceived research and publication performance, resulting in a significant total effect (β = .169, p = .006). This evidence suggests that WPLC fully mediates the relationship between perceived deans' leadership by exception (active) behavior and instructors' research production and publication development within their respective college.

On the other hand, deans' leadership by exception (passive) demonstrated a non-significant direct effect (β = -0.066, p = .094) as well as a significant indirect effect (β = -0.065, 95% CI [-.136, -.009], p = .023) via WPLC on academics' perceived research and publication performance, yielding a non-significant total effect (β = .001, p = .973). This evidence implies that WPLC fully and inversely mediates the relationship between deans' leadership by exception (passive) behavior and academics' research production and publication development in their respective college.

Additionally, Cohen's f^2 values demonstrated a medium to small effect size for the direct effects of both exogenous variables, at .164 and .026, respectively. Furthermore, a medium effect size of .215 was observed for the indirect effect, mediated by learning capability, of contingent reward leadership behavior and active management-by-exception on the perceived development of research and publication performance, as presented in Table 5.

Table 5

Boot Strapping Analyses Results

Path ways	Direct Effect	Indirect Effect	Total	Boot strapping Bias-corrected 95% CI		Significance	Decision
				Lower	Upper		
LdCR→ WPLC→ RPP	.122*(2.259)	.365	.486	.280	.471	.003	Partial mediation
LdBEA→WPLC→RPP	.030†(.706)	.139	.169	.077	.201	.005	Full Mediation
LdBEP→WPLC →RPP	.066†(1.545)	-.065	.001	-.136	-.009	.023	Full mediation

Note: *= significant p. value, †= non-significant p. value

The mediation of learning capability plays a significant role in the practice of deans regarding the three transactional leadership behaviors employed to enhance research productivity. However, this mediation is subject to the type and intensity of transactional leadership behaviors, which can vary depending on the specific context and the characteristics of the academic personnel involved. For example, Deans' behaviors characterized by contingent rewards are generally more effective than those based on punishment or delayed responses in fostering workplace learning capability and boosting research productivity (Podsakoff, 2006).

Furthermore, the level and quality of workplace learning capability are likely influenced by the organizational culture, structure, and resources that either facilitate or impede learning activities. Certain learning activities may prove more relevant and advantageous than others in cultivating dynamic capabilities and enhancing research productivity. Additionally, the measurement and evaluation of research productivity are subject to various external influences, including the availability and accessibility of research funding, facilities, and collaborative networks, as well as the quality and quantity of research partnerships and competitive factors, alongside the prevailing standards and expectations of the academic community and broader society.

Status of Research Productivity

Table 6

Academics' Research Publication in Non-Predatory Journals by University from 2017 to 2021 academic years

No. of Articles	BDU (n=197)		UoG (n=165)		DMU (n=157)	
	No. of staff * (Articles)	%	No. of staff * (Articles)	%	No. of staff * (Articles)	%
0	86(0)	43.6%	75(0)	45.4%	71(0)	45.2%
1	24(24)	12.2%	16(16)	9.7%	13(13)	8.2%
2	23(46)	11.7%	23(46)	13.9%	20(40)	12.7%
3	11(33)	5.6%	10(30)	6.1%	17(51)	10.8%
4	11(44)	5.6%	7(28)	4.2%	8(32)	5.1%
5	7(35)	3.5%	5(25)	3%	8(40)	5.1%
>5	35(462)	17.8%	29(327)	17.6%	20(231)	12.7%
Total	197(644)	100%	165(472)	100%	157(307)	100%
% of >5 article	71.7%		69.3%		75.2%	
Mean value	1:3.26/5year		1:2.86/5year		1:1.95/5Year	
SD		6.65274		4.68378		4.19242
Min-Max	(0-60)		(0-25)		(0-23)	

Source. Academics' response data organized by the researchers

As presented in Table 6, the number of academics at BDU, UoG, and DMU who did not publish at least one article in a non-poaching journal over the past five years (2017–2021) was 86 (43.6%), 75 (45.4%), and 71 (45.2%), respectively. These figures underscore a research publication culture that is unsatisfactory and below expectations at all three institutions. A significant proportion of published research articles is attributed to a small number of academics: at BDU, 71.7% of the publications were produced by 35 instructors out of a total of 197; at UoG, 69.3% of articles were authored by 29 academics from a total of 165; and at DMU, 75.2% of the articles were produced by 20 researchers out of 157 over the same five-year period.

Additionally, the majority of academics at each institution published a relatively modest number of articles: BDU had 76 academics contributing to 182 (28.5%) research articles, UoG had 61 academics publishing 145 (30.7%), and DMU had 66 academics with 76

(24.7%) articles. These statistics suggest that a significant number of academics are associated with a lower proportion of overall published research. This scenario may reflect either limited access to research grants and publishing opportunities or inadequate research and publication skills among the majority in comparison to the more prolific groups. Overall, the research and publication culture across these universities indicates a pressing need for enhancement to align with both local and global standards and best practices.

Discussion

The main purpose of the present study was to investigate the impact of academic perceptions of deans' transactional leadership behaviors and the workplace learning capabilities of colleges on research productivity within their respective universities, framed within the context of RBVT and dynamic capabilities theory. Furthermore, the study explored the mediating role of workplace learning capability in the relationship between deans' transactional leadership behaviors and the research productivity of colleges within these institutions.

The study confirmed that the transactional leadership behaviors of deans (contingent rewards and active leadership by exception) were significantly and positively associated with the perceived research productivity of their respective colleges, even when controlling for the mediator of workplace learning capability. Notably, the deans' use of contingent rewards and active leadership by exception exhibited a positive and significant indirect effect on the colleges' research productivity through organizational learning capability across all participating universities (Ur-Rahman et al., 2019; Quintana et al., 2014; Nazarian et al., 2017). These results underscore the importance of the first dimension of dynamic capabilities theory, which emphasizes strategic and operational leadership as essential for universities to maintain a competitive advantage in research productivity and other performance metrics within their contexts (Lopez-Cabrales et al., 2016).

The deans' provision of rewards and reinforcements in different forms motivate subordinates (academics in this case) to carry out successfully research productivity activities and achieve the first mission of research intensive universities in Ethiopia (MoSHE, 2020). Similarly, the Deans' practice of active punishment interventions undertaken to stop the misbehaviors of academics in line with reacting and achieving college missions and visions up to standards such as research productivity to institutional, national and global standard thresholds(Nawaz et al. 2022; Podsakoff, 2006).

The deans' provision of various rewards and reinforcements serves to motivate their subordinates—specifically, the academic staff—to successfully engage in research productivity activities, thereby fulfilling the primary mission of research-intensive universities in Ethiopia (MoSHE, 2020). In parallel, the deans' implementation of active punitive measures aims to address and curtail academic misconduct in alignment with the colleges' missions and visions, thereby adhering to institutional, national, and global standards for research productivity (Nawaz et al. 2022; Podsakoff, 2006).

Conversely, the deans' passive leadership behaviors demonstrated a negligible direct impact on their respective colleges' research productivity. However, there was a significant inverse indirect effect mediated by workplace learning capability, which contributed to the

development of research output (Nazarian et al., 2017). These passive interventions often manifest as punitive measures employed in response to varying degrees of academic misconduct within the colleges (Podsakoff, et al 2006; Pihi et al 2011; Quintana et al, 2014; Jung & Avolio, 2000). Notably, deans frequently resort to these passive punitive measures, next to the use of contingent rewards, in their leadership paradigm.

In addition, the study revealed that deans' use of contingent rewards and their active leadership-in-exception behaviors significantly influenced the workplace learning capabilities of academics within their respective colleges. These findings are consistent with previous research (Jansen et al., 2009; Vera & Crossan, 2004). From the perspectives of resource-based view theory and dynamic capabilities theory, achieving a sustainable competitive advantage depends on effectively applying organizational learning functions, which are vital dynamic capabilities that enhance research productivity in colleges (Brockmand & Morgan, 2003; Keskin, 2006).

The structural model testing of organizational learning capability dimensions—such as leadership commitment to fostering a learning culture, functional interrelatedness within the system, openness and experimentation among academics, and the processes of knowledge transfer and integration—demonstrated a significant direct effect on research output and publication development performance (Tippins & Sohi, 2003). Furthermore, these dimensions acted as crucial mediators in the relationships between transactional leadership styles and research productivity performance (Garcia-Morales et al., 2006; Jiménez-Jiménez & Sanz-Valle, 2011). As organizational learning capability represents both a dynamic capability and a VRIN resource within RBVT, its effective utilization is essential for universities seeking to sustain their competitive edge in both local and global markets (Zhou et al., 2019; Eisenhardt & Martin, 2000).

Overall, the findings of this study corroborate previous research regarding the transactional leadership behaviors of deans and the mediating effects of contextual factors on research productivity in terms of both volume and quality at the college and university levels (Ur-Rahman et al., 2019; Quintana et al., 2014; Senge, 1990; Liao et al., 2017). Ultimately, our discussion affirms that deans' transactional leadership behaviors significantly impact the research productivity of their colleges, with these synergies being enhanced by the institutions' workplace learning capabilities.

Conclusions and Implications

Conclusion

The findings of this study reveal that deans' contingent reward leadership behaviors and active leadership by exception positively influence the research productivity of colleges. Conversely, deans' passive leadership by exception, characterized by delayed intervention, exerts a negative impact on research productivity across the universities examined. Additionally, the organizational learning capabilities of the colleges—encompassing leaders' commitment, system interconnectedness, openness to experimentation, and knowledge transfer and integration—significantly mediate the relationship between deans' transactional leadership behaviors (which include rewards, punishments, and non-leadership) and research productivity.

Therefore, it is imperative to enhance faculty workplace learning capabilities by addressing their identified needs for organizational learning. The interplay between leaders' leadership behaviors and the contingent contexts influencing those behaviors is critical for fostering research productivity that aligns with institutional, national, continental, and global performance standards.

Implications

This research presents several important implications for practice within higher education. Primarily, it emphasizes the crucial role of college deans, an aspect that is often overlooked in favor of technical improvements. Our findings indicate that the leadership style of deans can foster a synergistic interplay with organizational learning, thereby enhancing research output and publication performance within their respective colleges. Consequently, it is imperative for college deans to implement systematic workplace learning practices that can foster competitive advantages and enable their institutions to surpass rival universities.

Secondly, this study claims the significance of deans' leadership styles and their relationship to research production and publication as key dimensions of university performance, particularly within the ever-evolving context of workplace learning. College deans should actively cultivate the workplace learning capabilities of their academic staff and stimulate an enduring enthusiasm for learning. By doing so, they can significantly enhance both research output and publication performances, ensuring their colleges maintain a competitive edge in the global arena.

The third implication drawn from our integrated framework highlights the necessity for college deans to prioritize leadership practices that nurture organizational learning capabilities alongside the development of research production, dissemination, and utilization within their institutions. Such a strategic focus is essential for achieving competitive advantages on both local and global scales.

Moreover, our findings suggest that the contingent reward aspect of transactional leadership represents the most effective behavior for enhancing academics' workplace learning capabilities, effectively addressing researchers' needs, and subsequently contributing to the college's research production, publication, and overall institutional effectiveness. By employing contingent rewards, college deans can set attainable goals, articulate clear visions, identify the needs of their subordinates, and align these needs with expectations for performance and corresponding rewards. Conversely, deans should avoid non-corrective transactional leadership styles, such as passive leadership by exception, as these approaches have been shown to produce detrimental effects on academics' research production and publication performance.

Theoretical Contributions

This study enhances the theoretical understanding of deans' transactional leadership behaviors and their impact on research productivity within Ethiopian higher education institutions (HEIs). It identifies key elements of transactional leadership and contextual factors that refine existing leadership frameworks aimed at improving HEI performance. While previous research has focused on modern leadership styles such as transformational

and ethical leadership, it often overlooks the specific contextual challenges faced by institutions in developing nations like Ethiopia. Therefore, it is crucial for federal policymakers and education ministers to acknowledge the importance of transactional leadership and workplace learning capabilities in boosting research productivity, measured against both local and global standards. The study also emphasizes the mediating effect of college deans' and academics' workplace learning capabilities in the relationship between deans' transactional leadership and research output.

Limitations of the Study

Despite the efforts invested in this research, several limitations warrant consideration in future studies. First, the data utilized in this study are cross-sectional in nature. Future investigations could employ panel data or experimental methods to further elucidate the causal relationships among the variables. Second, our analysis assumes a homogeneous approach to research production and publication performance within Ethiopian universities. Future research could explore the applicability of our theoretical model across diverse contexts, both globally and within the standards of research production and dissemination in Africa. Third, while this study measures organizational learning variables and research productivity through a first-order structural model, future research could benefit from the application of a second-order structural model to enhance analytical depth.

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Trends in the development of micro and small enterprises and the challenges of TVET programs in Ethiopia: Implication for curriculum development

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Abstract

This study aimed to examine the development trends of micro and small enterprises and the challenges of Technical and Vocational Education and Training (TVET) interventions in Ethiopia, focusing on Bahir Dar City. For this purpose, a mixed methods research approach involving both quantitative and qualitative data from archives and interviews with officers, trainers, and enterprise owners was employed. The results of the study revealed an increase in enterprise enrollment from 2008 to 2021. However, the overall development progress remained notably low, as indicated by the limited proportions of enterprises reaching maturity stages. Moreover, the planning and implementation of TVET programs were found to be misaligned with the needs of various employment sectors, primarily due to lack of occupational standards, inadequacies in trainer availability, and deficiencies in skills and resources. This study proposed strategies to improve current performance and to address systemic challenges sustainably, including training on curriculum development.

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Introduction

In response to the increasing demand for skills, both developed and developing nations are implementing Technical and Vocational Education and Training (TVET) policies that concentrate on skills development within the Micro and Small Enterprise (MSE) sector. Micro and Small Enterprises, also known as small and medium-size enterprises (SMEs), encompass a diverse array of business activities, including small-scale manufacturing, trades, and services typically functioning within domestic markets. Their contribution to a healthy business environment, economic efficiency, and economic development, especially in

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developing nations is widely acknowledged (OECD, 2002; UNCTAD, 2001). These enterprises have gained prominence compared to larger industries due to their lower start-up costs and management expenses while often relying on more intensive labor, resulting in cost-effective production.

In 2006, the United Nations Educational, Scientific and Cultural Organization (UNESCO) expanded the definition of Technical and Vocational Education and Training (TVET) to encompass informal vocational learning obtained in workplace settings (Catts, Falk, & Wallace, 2011). Research indicates that micro and small enterprises typically do not prioritize formal training or qualifications. Instead, they emphasize the informal sharing of work skills and knowledge among employees, actively seeking immediate learning opportunities to address urgent business challenges (OECD, 2002; Storey, 2000; Yamada et al., 2018). As a result, it is advised that training providers develop programs that are specifically tailored to the unique requirements of different roles within both start-ups and established businesses.

The literature suggests that human capital is a crucial factor in the growth of enterprises. The survival, competitiveness, and sustainability of businesses are believed to hinge on continuous investment in human resources, the development of technical skills, and the provision of technology extension services (ILO, 2007; Shelly, 2018; UNCTAD, 2001). Empirical research indicates a positive correlation between management skills training and enterprise performance (OECD, 2002; UNCTAD, 2001). According to Shelly (2018), entrepreneurial training fosters creative thinking and assists small business owners in their ability to manage limited resources, marketing challenges, and financial constraints.

The common approach for developing the curriculum for technical and vocational occupations has been job analysis. This process seeks to identify occupational tasks and establish the necessary standards of knowledge, skills, and behaviors for effective performance. These benchmarks, known as occupational standards, inform needs assessments of enterprises and guide the content and resources allocated for training (ILO, 2022; Norton, 1997). Job analysis has been employed in multiple countries to rectify discrepancies between TVET skills supply and local economic demands.

Statement of the Problem

Until recently, the Ethiopian education system did not prioritize technical and vocational occupations. Skills in crafts and trades were traditionally acquired through apprenticeships, relying on observation, modeling, and hands-on practice. However, the importance of informal training methods—such as inheritance, observation, and practice—had not been widely acknowledged by the public or within the economic sector (Edukans Foundation, 2012; MOE, 2008).

Technical and vocational education began to get attention in Ethiopia's education system following the introduction of the 1994 education and training policy (TGE, 1994). This was further reinforced by the national TVET strategy in 2008, which aimed to connect TVET initiatives with the development of micro and small enterprises. TVET institutions were tasked with creating training programs tailored to various enterprises and skill levels, developing technologies suitable for different work environments, and establishing

comprehensive curricula that include training guides, manuals, and a robust monitoring and evaluation system (FDRE, 2016, p.34-35).

Several studies have examined the performance of micro and small enterprises in Ethiopia (Gemechu & Teklemariam, 2016; Ginja, 2016; Yodit, 2015; World Bank, 2009). These studies generally reported that enterprises performed poorly in various contexts and identified contributing factors such as limited financing, raw materials, market access, and management skills. They also highlighted the necessity of TVET interventions to address these management skill deficiencies. On the other hand, research on TVET interventions revealed mismatches between the supply and demand of skills within enterprises (Dereje, 2017; FDRE, 2016; Gebeyehu, 2014; ILO, 2019; MOE, 2020; Sebsib &Yimer, 2018; Yamada et al., 2018) These studies also reported that TVET training was overly theoretical and did not adequately address the specific challenges faced by MSEs.

In response to these challenges, the Ethiopian Ministry of Education has initiated reforms in TVET with an emphasis on Competency Based Training (CBT). Nonetheless, the established TVET standards set international benchmarks for training delivery and qualifications, which do not align well with on-the-job training that takes place in the informal sector, where a significant portion of the workforce is engaged. For instance, Yamada et al. (2018) found that Ethiopian garment firms emphasized production skills and design while TVET standards focused more on kaizen and literacy and numeracy.

Despite numerous studies that have highlighted these mismatches, there has been a scarcity of scholarly research aimed at identifying the specific types and areas of skills where misalignments occur. This study, therefore, aims to bridge this gap by exploring the development trends of micro and small enterprises as well as the challenges associated with technical and vocational education and training interventions. In light of this purpose, the study aimed to answer the following key research questions: (1) what are the trends of enterprise development in Bahr Dar city administration? (2) Are TVET programs in alignment with the employment needs and priorities of enterprises? (3) What challenges do TVET interventions face when implemented in micro and small enterprises?

Theoretical Framework

This study employs the Work Process Analysis (WPA) framework, utilizing the DACUM (Developing a Curriculum) approach. The WPA framework focuses on enhancing the curriculum by integrating workplace observations to inform educational content (Spöttl & Loose, 2014, 2018). A work process constitutes a comprehensive sequence of tasks aimed at achieving a specific operational goal always resulting in a tangible output.

The WPA methodology comprises three main steps: (1) assessing the overall occupational impact to identify the competencies required for managing and shaping work tasks; (2) conducting a vocational educational scientific task analysis to pinpoint the critical structures necessary for competency development; and (3) performing a work process analysis to uncover the generic skills essential for acquiring work-process knowledge (Spöttl & Loose, 2014, 2018). The methodology, which begins with work-process analysis to design qualifications, draws on a holistic review of actual work processes and contributes to the establishment of work-process-based occupational standards, eventually leading to a well-

rounded and contextually relevant occupational competence. Within the scope of work-process analysis, two primary methods are commonly employed: workplace observation and expert interviews or action-oriented specialized interviews (Becker, 2008).

DACUM has proven effective in analyzing occupations across professional, technical, skilled, and semi-skilled levels. The competency profile generated serves as a foundational resource for various outputs, including the creation of training programs and the formulation of operational procedures for quality initiatives. The ILO (2022) recommends the DACUM as a suitable methodology for developing occupational standards and curricula grounded in skill needs assessments.

In this study, the DACUM approach is utilized to identify the competencies necessary for a training curriculum tailored to a specific occupation. In doing so, the WPA techniques are incorporated within the DACUM as a framework for curriculum development. The purpose is to create a competency profile for a job, detailing all required duties, tasks, skills, knowledge, and tools essential for performing the job at a specified proficiency level.

Methods

Research Approach and Design

This study utilized a mixed research approach, incorporating both quantitative and qualitative methods. Specifically, a sequential parallel design was adopted to effectively gather and analyze data from archival sources and curricular documents. The process began with a document analysis aimed at examining trends in enterprise development and TVET interventions. This was followed by reflective interviews to understand the current status, challenges, and opportunities.

Sampling

The study focuses on small and medium enterprises located in Bahir Dar city. According to data from the city's department of enterprise development, a total of 3,079 SMEs were registered across six sub-cities from 2008 to 2021, encompassing various sectors, including services, manufacturing, construction, urban agriculture, and trade.

In this research, three sectors (services, manufacturing, and urban agriculture) were selected from four sub-cities—Atse Tewodros, Fasilo, Tana, and GisheAbay—using simple random sampling to ensure both substantial representation and a balanced inclusion of sub-cities. The sample comprised 1,825 enterprises which represented 60.05% of the total population of SMEs in Bahir Dar city administration. This sample included 1,162 enterprises in services, 543 in manufacturing, and 120 in urban agriculture, resulting in a completion rate of 59.27% for the necessary data profiles.

Data Gathering

Data gathering involved the use of document analysis and interviews. The document analysis focused on archival materials while interviews were conducted with officers, trainers, enterprise operators, and workers.

Document Analysis

Data on trends in enterprise development was sourced from the city's Department for Technical-Vocational and Enterprises Development (TVED). Between 2008 and 2021, a total of 3,079 micro and small enterprises were established across five occupational categories and six sub-cities (see Table 1).

Table 1

Population of Micro and Small Enterprises in 6 Sub-cities by Occupational Category

Sub-cities	Services	Manufacturing	Construction	Urban Agriculture	Trades	Total
Gishe Abay	304	133	64	31	39	571
Atse Tewodros	172	214	173	54	69	682
Fasilo	408	102	81	11	20	622
Dagmawi Menelik	182	100	123	21	-	426
Belay Zeleke	108	29	38	4	-	179
Tana	290	117	147	24	21	599
Total	1464	695	626	145	149	3079

The TVED compiled profiles of MSEs which included details on enrollment years, occupations, and developmental stages categorized as start-up, growth, and maturity. It was noted that a micro and small enterprise is expected to reach maturity within five years of operation, thereby transitioning to a small enterprise. The subjects were divided into three enrollment periods: 2008-2013, 2014-2018, and 2019-2021, allowing for analysis of their business longevity and current development stages. The current stages (start-up, growth, or maturity) were assessed for each enrollment period and occupation type using frequency and percentage.

Data regarding TVET intervention programs were collected from the industry extension services unit at Bahir Dar polytechnic college. While several private TVET colleges also offered enterprise training programs, they primarily focused on introductory entrepreneurship training for unemployed individuals. In contrast, Bahir Dar polytechnic college provided industry extension services for established enterprises.

Relevant data for the college's programs in the years 2021 and 2022 included information on organizational structure (key stakeholders and their relationships), staff profiles, enrollment figures, occupations, and components of delivery for Industry Extension Services (IES). The participation rate in IES was analyzed by occupation using numerical data and percentages. Additionally, the composition of new enrollments at the polytechnic college in 2022 (totaling 74) across three occupational categories—services, manufacturing, and urban agriculture—was examined. This analysis highlighted the relevance of IES to specific employment needs.

Interviews

The interviews involved five key stakeholders, including a TVED officer, an IES programmer, and three trainers with the aim of identifying the challenges associated with

TVET interventions. The interviews included guiding questions such as, “What conditions facilitate or hinder enterprise development? What procedures were followed for needs assessment? What challenges existed in aligning training with enterprise needs?” The interviews aimed to explore the participants’ experiences with regard to job analysis and needs assessments, as well as opportunities for enhancing practices.

An interpretative and process-oriented qualitative evaluation approach (Kardorff, 2004) was utilized to define the goals and framework for the interviews. The interviews served as a consultative process where the relevance and efficiency of goals were assessed within a social context, allowing key stakeholders to share their interpretations. Quantitative data were also presented to encourage reflection among practitioners and to identify improvement strategies. Ultimately, the interview data were categorized into 'challenges,' 'opportunities,' and 'solutions.' The reliability of the data collected was strengthened by the fact that each participant held significant roles in administering, programming, or delivering enterprise training.

A structured interview was also conducted with 15 operators and workers from various enterprises to assess their ratings of the importance or relevance of IES components. The participants were selected through stratified random sampling from different employment sectors in three specific occupations, totaling 74 individuals who took part in IES programs in 2022. Ratings were collected for each component, categorizing their responses as relevant or important, partly related or important, and unrelated or not important. The findings were analyzed and presented using means and percentages. Additionally, the participants identified priority areas for IES intervention within their respective jobs.

Data Analysis

The data collected through document analysis and interviews were analyzed using both quantitative and qualitative methods. Descriptive statistics, mainly frequencies and percentages, were employed to analyze the quantitative data, while the qualitative data were analyzed thematically. Using these analysis methods, the development trends of micro and small enterprises were explained in the context of institutional factors highlighting the constraints and opportunities they present for various occupations. TVET programs and activities are also discussed focusing on their participation rates and alignment with the needs of enterprises.

Results

Trends in Enterprise Development from 2008 to 2021

This study assessed enterprise achievement by evaluating the number of years in operation and their current stages of development. Records by the city’s Technical-Vocational and Enterprises Development Department (TVED) documented the history of enterprises from their inception, including initial and current capital, as well as the number of employees. Each enterprise's stage of development in 2022 was classified as 'start-ups', 'growth', or 'maturity', based on criteria such as job creation, capital, profitability, and the adoption of new technologies.

According to the TVED, a micro and small enterprise is anticipated to reach the maturity stage within five years of operation, thereby qualifying as a 'small enterprise'. Establishment years were categorized into three enrollment periods: 2008-2013, 2014-2018, and 2019-2021 focusing the analysis on enterprises with 5 to 10 years of operation. The results of the analysis detailing the enrollment years and stages of development in 2022 for the three sampled occupations are presented in Table 2.

Table 2

Trends in Enterprise Development across Three Occupations (2008-2022)

Occupations	Years of Establishment	Registered Total	Progress in 2022					
			Start ups		Growth		Maturity	
			No	%	No	%	No	%
Services	2008- 2013	252	160	63.49	66	26.19	26	10.31
	2014- 2018	430	321	74.65	87	20.23	22	5.11
	2019-2021	480	472	98.33	8	1.66	-	-
	Total	1162	953	82.09	161	13.85	48	4.13
Manufacturing	2008- 2013	67	16	23.88	18	26.65	25	37.31
	2014- 2018	183	101	55.19	57	31.15	19	10.38
	2019-2021	293	243	82.93	7	2.54	43	14.96
	Total	543	360	66.29	83	15.28	91	16.75
Urban Agriculture	2008- 2013	26	7	26.92	14	53.84	5	19.23
	2014- 2018	36	18	50	10	27.77	8	22.22
	2019-2021	58	52	89.65	2	3.44	4	6.89
	Total	120	77	64.16	26	21.66	17	14.16

Table 2 indicates that, in the service sector, only 26 out of 252 enterprises registered between 2008 and 2013 (10.31%) achieved maturity by 2022. For those registered between 2014 and 2018, the maturity rate was notably lower at 5.11% (22 out of 430). The percentages of enterprises in the 'growth' stage for these enrollment periods were 26.19% and 20.83%, respectively. This data highlights a concerning trend, as 63.49% of the 2008-2013 cohort and 74.65% of the 2014-2018 cohort remained as startups, indicating no growth over a span of 5 to 14 years.

In contrast, the manufacturing sector exhibited similar trends but with considerably more favorable outcomes. In this sector, 37.31% of enterprises from the 2008-2013 enrollment period (67 enterprises) reached maturity by 2022 while 26.65% advanced to growth stages. Additionally, 14.96% of startups from 2019 to 2021 achieved maturity. However, 46.8% of enterprises registered between 2008 and 2018 (a total of 117 out of 250) were still classified as startups.

The urban agriculture sector which included animal production, crop agriculture, and natural resource management such as nurseries and gardening, had some noteworthy results. Among the 26 enterprises from the 2008-2013 enrollment period, 19.23% attained maturity by 2022, and 53.84% moved into growth stages. For the 2014-2018 cohort, 22.22% reached maturity and 27.77% were in growth stages. Notably, 6.88% of enterprises that started

between 2019 and 2021 achieved maturity while 40.32% of all enterprises registered between 2008 and 2018 (totaling 25 out of 62) remained as startups.

The enrollment periods from 2008 to 2018 were particularly examined to compare years in business with development stages in 2022. The findings reveal that although enterprise registration has increased significantly over the years (from 345 in 2008 to 1,480 in 2021), the proportions achieving growth or maturity stages remained strikingly low across all sectors and sub-cities included in this study. Specifically, the growth and maturity rates for the enrollment periods of 2008-2018 were 21.1% and 10.5%, respectively.

Moreover, substantial variations were noted in the growth rates across the three sectors. Manufacturing enterprises performed notably better, with 37.31% of the 2008-2013 cohort achieving maturity by 2022, compared to only 19.96% in urban agriculture and a mere 10.31% in services. For the 2014-2018 enrollment period, 17.6% of manufacturing enterprises attained maturity while urban agriculture had 20.22% and services only 5.11%. Lastly, for the 2019-2021 startups, only the manufacturing sector (14.96%) and urban agriculture (6.88%) showed some maturity levels, while overall, the proportions registered from 2008 to 2021 stood at 16.75% for manufacturing, 14.16% for urban agriculture, and only 4.13% for services.

Interviews conducted at the city's TVET department and the IES unit of Bahir Dar polytechnic college sought insight into the varying growth rates across occupations. It became clear that government interventions, such as technical assistance, financial support, and land access, particularly targeted the manufacturing sector. While there were expectations for services to progress similarly and benefit from these supports, it was noted that the manufacturing sector confronted challenges related to raw material supply (e.g., cement for producing cement blocks). Conversely, MSEs in the services sector faced infrastructure limitations often operating under makeshift conditions lacking electricity and water.

According to the TVET officer, the urban agriculture sector, which encompasses animal production and horticulture, benefited from accessible consumer markets for animal products and vegetables in Bahir Dar. However, those involved in animal production often struggled with feed shortages. Additionally, financial loan systems for several enterprises proved unsustainable. The TVET officer illustrated the financial strain, citing the following example:

> A 10 million Birr cash credit invested upon in the year 2021, for instance, had to ensure its 97% returned by the end of the year, and then plan for 2022. This implied that in the absence of efficient mechanisms of collecting revenues, as it was often the case, a financial firm would not allow credits for applicants in the consecutive years.

The above qualitative data highlighted the lack of effective revenue collection mechanisms often leading financial institutions to hesitate in granting credits for future years.

TVET Intervention Programs for Micro and Small Enterprises

Bahir Dar polytechnic college, along with several private TVET colleges, offers enterprise training programs. Notably, the private institutions primarily focus on entrepreneurship in response to large employment demand. This study focused on Bahir Dar

polytechnic college, which features an academic unit led by an assistant dean specifically for Industry Extension Services (IES). The IES provides support across 18 different employment fields involving assessment, consultation, and training.

The IES comprised five core components: Accounting, kaizen, entrepreneurship, technical skills, and technology use. Accounting training covers fundamental bookkeeping procedures, cash management (both sales and expenditures), financial reporting, and credit sales management. Kaizen training aims to enhance organizational efficiency, manage waste, and promote workplace ethics and safety. The entrepreneurship component, on the other hand, includes training on starting a business, resource allocation, marketing strategies, and performance evaluation. Lastly, the technical skills and technology use segment focused on relevant concepts, skills, and innovative technologies applicable to specific jobs and workplaces, emphasizing task accuracy, product specifications, and adherence to occupational standards. A summary of the trainer profiles across different occupations and employment fields is presented in Table 3.

Table 3

Staff Profiles and Occupational Distribution (Year 2022)

Occupations	Particular Employment	Number of MSEs	Number of staff	*EPL
Manufacturing	Food production	46	3	B
	Textile weaving	33	2	B
	Wood work	38	2	B
	Metal work	73	5	2B/3C
	Sewing	51	3	A/C/B
	Mechanical Engineering	8	1	B
Construction	Construction	66	10	9B/1A
	Road construction	63	5	3B/2C
	Water technology	7	1	B
Services	ICT	15	2	B
	Electricity	17	4	B
	Hotels	51	3	B
	Auto mechanic	20	2	B
	Women's' Beauty salon	13	1	C
	Municipality	10	1	B
Urban Agriculture	Animals Breeding	84	4	3A/1B
	Crop agriculture	14	1	B
	Natural Resources Management	6	1	B
Total	18	619	51	

Source. College archive

*Note***.** EPL=Education Preparation Level, A- Levels= Masters Degrees; B-Levels= Bachelor's degrees; C-Levels=Diploma

The industry extension services unit employed a total of 51 trainers. The ideal workload for each trainer is recommended to be 20 enterprises, yet current allocations were significantly lower, with just 6 in natural resources management and 4 in electricity. These trainers visited enterprises on-site to evaluate their performance, monitor standards and

challenges, and plan tailored training and consultation for both individual and group micro and small enterprises. According to the TVET curriculum, trainers were expected to possess at least a C-level qualification (Diploma) in relevant fields, along with practical training and industry experience (MOE, 2013). The academic qualifications of the trainers showed that 5 (9.8%) hold Master's degrees, 39 (74.47%) have Bachelor's degrees, and 7 (13.74%) had Diplomas.

However, interviews with college officials and trainers indicated that trainers with the necessary practical training and industry experience were scarce in the job market. To address this gap, on-the-job training and experience at enterprise workplaces had been implemented.

Enrollment of Trainees in IES for 2021 and 2022

Interviews conducted with the city's department for technical-vocational and enterprise development revealed that Bahir Dar polytechnic college received candidate lists from sub-city enterprise administration offices. These offices were responsible for monitoring the status and progress of enterprises and for recommending training after consulting with relevant stakeholders. During their visits to workplace locations, trainers identified skill gaps and subsequently planned training based on these needs. Enrollment criteria stipulated that the enterprise to be operational and demonstrate interest in the proposed training program.

Bahir Dar polytechnic college maintained a database of the industry extension services conducted across various occupations in different years. Tables 4 and 5 provide a summary of the applications received and enrollments for various occupations in 2021 and 2022.

Table 4

Participation for Enterprises and Trainees in 2021

Occupations	Number of Candidates		Number Enrolled		% Enrolled/ Candidates	
	MSEs	Trainees	MSEs	Trainees	MSEs	Trainees
Manufacturing	309	1247	293	1148	94.82	91.98
Constructions	158	542	114	449	72.15	82.84
Services	158	542	114	449	72.15	82.84
Urban Agriculture	79	236	64	208	81.01	81.13
Total	676	3905	589	2906	87.13	74.49

Table 4 shows the participation rates of enterprises, entrepreneurs, and their workers in IES for the year 2021. The data on applications and admissions reveal the alignment or discrepancies between the demand for training and the available resources. In that year, 589 enterprises participated in IES, representing 87.13% of the 676 enterprises that were nominated by the city's TVED department. A total of 2,906 enterprise operators were enrolled out of 3,905 candidates, resulting in a participation rate of 74.49%. On average, there were 4.93 trainees per enterprise.

Table 5

Enrollment Figures for Enterprises in 2022

Sector	No. of Trainers	Fields of Employment	Number of MSEs Applications			Number Currently Enrolled			Total Enrolled (%)
			Archive	New	Total	Archive	New	Total	
Manufacturing	16	6	266	23	289	226	24	250	86.5
Construction	16	3	179	14	193	127	12	139	72
Services	13	6	146	14	160	112	14	126	78.75
Urban Agriculture	6	3	68	36	104	68	36	104	100
Total	51	18	659	87	746	533	86	619	82.97

Table 5 illustrates that the total number of applications and admissions in 2022 included an archived population from 2021 as well as new candidates from the current year. In 2022, the total enrollment at the college reached 619, with 746 applications submitted. The participation rate for the IES was 82.97% across the four occupations studied. However, the data did not specify the number of entrepreneurs involved in the programs.

According to the data presented in Tables 4 and 5, Bahir Dar polytechnic college served a total of 1,208 enterprises over two consecutive years (589 in 2021 and 619 in 2022), which represents 48.59% of the total 2,486 enterprises across the four occupations in BDCA. IES participation differed among the sampled occupations with rates of 20.65% in services, 95.93% in manufacturing, and 86.66% in urban agriculture.

It was noted that the polytechnic college had to accommodate both candidates from previous years and new applications each year. The demand for training from the TVET increased from 676 MSEs in 2021 to 746 in 2022. Based on 2021 data, the college had an enrollment capacity of 2,909 trainees. The participation rate of MSEs met the demand, standing at 86.88% (596/686) in 2021 and 82.97% (619/746) in 2022. Overall, it appears that the polytechnic college effectively utilized its capacity to support enterprises and their operators.

Alignment of Training with Enterprise Needs

The training initiative implemented various delivery methods for the five IES components. Occupational groupings were utilized for training in accounting, kaizen, and entrepreneurship while technical skills and technology training were tailored to specific fields of employment outlined in Table 6. In each instance, both managers and employees participated in the training.

This study examined the alignment of TVET interventions concerning their relevance to the demand side of the participating enterprises. Two types of measures were employed to evaluate this alignment: i) the employment composition within occupational sectors, and ii) the satisfaction levels of trainees and entrepreneurial firms.

Analyzing new enrollments at the polytechnic college in 2022 (Total=74; see Table 5), we gathered data on the employment compositions across three occupations (services, manufacturing, and urban agriculture) from registrar records and trainers. Table 6 provides a detailed breakdown of the composition of each occupational group, along with the specific employment activities of micro and small enterprises.

Table 6

Composition of Employment in Trainee Groups

Occupations	No of MSEs	Employment Fields	Examples of Employment Activities	No of Employment Activities
Manufacturing	24	Food production	Bakery, *enjera*, alcohols, oil production	9
		Textile weaving	Cotton fibers spinning, textiles weaving,	
		Wood work	Timber, Wood furniture	
		Metal work	metal and glass works	
Services	14	ICT	Printing/photocopy, business Promotions	8
		Hotels	Cafeteria/ *jebena* coffee, laundry	
		Auto mechanic	garages	
		Municipality	sanitation, security, greenery/gardening	
Urban Agriculture	36	Animals Breeding	poultry, dairy farms, fish farms/ harvest, bees farms, beef fattening, sheep breeding	10
		Crop agriculture	vegetables farms, fruits farms	
		Natural Resources Management	Green nursery, organic fertilizers production	

The data presented in Table 6 indicates that various occupational groups comprised as many as 8 to 10 different types of employment activities which were assumed to share common elements addressed by IES training. For example, the manufacturing sector included businesses involved in oil production, weaving, and baking, while the urban agriculture sector comprised enterprises engaged in poultry farming, vegetable cultivation, and nurseries.

It is crucial to recognize that each employment type had distinct characteristics regarding workplace organization, skills, and technologies required. Training in kaizen and entrepreneurship, for instance, was provided to occupational groups with a focus on specific disciplinary standards and practices. However, the workplace organization and business development strategies applicable varied widely depending on whether the activities were related to food production, furniture making, hospitality, municipal services, livestock breeding, or horticulture.

Moreover, there were notable limitations regarding training in technical skills pertinent to baking, oil production, poultry farming, beekeeping, and beef cattle fattening. Consequently, when training was tailored to occupational groups, it was unlikely that the diverse needs of various enterprises would be sufficiently addressed. In contrast, the range of employment activities among MSEs in BDCA, as detailed in the MSE profiles, was significantly broader than what was encompassed by the IES programs.

Furthermore, during a structured interview, 15 trainees evaluated the significance of various elements of IES training based on their specific job roles. The participants were categorized according to 9 distinct employment activities across the three selected occupations. Table 7 presents the distribution of the participants' ratings, categorizing them as relevant, partly relevant, and not relevant.

Table 7

Participants' Ratings of the Relevance of IES Components

IES Components	Relevant		Partly Relevant		Not Relevant	
	No	%	No	%	No	%
Accounting	4	26.66	6	40	5	33.33
Kaizen	5	33.33	5	33.33	5	33.33
Entrepreneurships	5	33.33	6	40	4	26.66
Technical Skills	3	20	5	33.33	7	46.66
Technology Use	2	13.33	5	33.33	8	53.33
Mean Average	3.8	23.33	5.4	36.0	5.8	38.66

The participants' assessments of the importance of training mirrored how well it applied to their jobs. As illustrated in Table 7, only 3.8 (25.33%) of respondents felt that the content of the training programs was relevant to their employment needs. In contrast, 5.4 (36.0%) rated the content as 'partly relevant', while 5.8 (38.66%) deemed it 'not relevant' and indicated that they did not find the training significant. Dissatisfaction was particularly evident in the areas of technical skills (46.6%) and technology use (53.3%). This was primarily due to the unique technical and technological demands of different jobs which were not uniformly addressed across occupational groups.

Furthermore, participants expressed a desire for training programs to focus on their immediate skill shortages rather than offering generalized business development strategies that were assumed to apply to all careers. Consequently, the IES training seemed to benefit certain employment sectors while putting others at a disadvantage. One entrepreneur noted: "I attended the training programs not because I found them useful, but to ensure my attendance might be acknowledged in any future requests we would make to the TVED offices."

Participants were also asked to prioritize the various components of the IES program. Most entrepreneurs placed a high priority on technical skills and technology use, while ranking kaizen, entrepreneurship, and accounting lower.

In an interview, representatives from the IES unit at Bahir Dar polytechnic college acknowledged that both staff and institutional resources limited the quality and quantity of the training offered to participating enterprises. The participants mentioned that out of the numerous applications received annually, only a small portion was accepted with the rest deferred. These deferred candidates were then incorporated into the following year's admissions along with a selected number of new applications.

Additionally, they raised concerns about the availability of qualified trainers for various employment sectors. The college had trainers specializing in approximately 18 fields; however, the range of employment types was much broader. To meet demands, they implemented occupational groupings and relied on the trainers available. It was also noted that many trainers possessed academic backgrounds or experiences tailored to specific occupations, which could create challenges in addressing the specific needs for technical skills and technology applications.

Constraints of TVET Intervention

In this study attempts were made to explore the challenges associated with TVET interventions through the viewpoints of key stakeholders, including MSE administrators, IES programmers, and trainers. The participants, especially those from the IES, highlighted several significant obstacles to effective TVET intervention practices in BDCA, which are discussed as follows.

Mismatch of Occupational Standards and Trainer Skill Deficiencies

One of the primary barriers highlighted, which aligns with previous results, was the misalignment between the occupational standards (OS) established in the formal TVET curriculum and the employment needs of local enterprises. Additionally, institutions largely lacked the capacity to address these issues. To rectify the misalignment between the skills provided by TVET programs and the enterprise requirements, the TVET system was expected to revise existing occupational standards or create new ones by involving skilled workers from relevant industries (FDRE, 2016). However, despite the established policy framework for OS development or revision, this study found no initiatives undertaken in BDCA to address this concern.

Job analysis or task analysis was commonly employed to formulate OSs, conduct needs assessments, and allocate training aligned with enterprise-specific requirements. This procedure identified occupational tasks and the competencies (knowledge, skills, and work behaviors) necessary for effective performance. The culmination of task analyses and competency matrices formed the occupational standards that serve as benchmarks for assessing enterprise needs and developing training content, methods, and resources.

Sector officers understand the necessity of aligning policy directives with curriculum adjustments to address discrepancies. As explained by the IES programmer at Bahir Dar polytechnic college, industries were expected to play an integral role in developing the OSs pertinent to their products or services, which subsequently informed curriculum design and revisions for training programs. The evaluation of these training programs should also align with the standards established by the industry.

Nevertheless, the current climate presented challenges in developing occupational standards due to the need for skilled resources and stakeholder collaboration. Formal input from enterprises or sector ministries remained scarce, and government institutions responsible for training (e.g., in agriculture) had pursued separate TVET programs without efforts to create unified standards or share responsibilities with IES.

In the context of BDCA, enterprise trainers adapted training content from the formal TVET curriculum (MOE, 2013). In interviews, the training officer from the TVED and trainers at the polytechnic college reported having little orientation or experience in curricular development for enterprises. In this regard, the TVED officer had the following to say: “Although I am an expert in curriculum development, I have not engaged in any activities in this area, and I am uncertain how to proceed. I would like to participate in relevant training if such opportunities exist”.

Lack of Structural Support for Industry Extension Services

The interviews revealed that the ineffectiveness of TVET interventions can be attributed to a misalignment with the needs of enterprises, highlighting a design-related issue

coupled with significant challenges in implementing the necessary design processes. It is essential to clarify that a policy framework is inadequate unless combined with appropriate structural support, personnel, and resources to address the issue sustainably. In this regard, the IES programmer at Bahir Dar polytechnic college described the issues as follows:

> The IES has not received adequate structural support to implement its initiatives. For example, until 2020, the IES trainers had to manage teaching loads across both regular TVET programs and IES, in the Amhara national regional state, only receiving separate staff assignments afterwards. Trainers conducted site visits to enterprises to identify specific skill gaps or technical shortages that could inform training and consultation efforts. However, inadequate travel and per diem allowances hindered these activities.

Additionally, as the participant reported, while promotion mechanisms were established for TVET trainers in academic programs, IES staff were not included which left trainers feeling insecure in their positions. Despite working under challenging conditions, many skilled trainers maintained motivation in their roles although several have since left the polytechnic college for alternative employment opportunities.

During interviews, the IES officer underscored the vital role that micro and small enterprises play in job creation, economic development, and self-reliance. Youth motivation to enter the MSE sector was significant with university graduates pursuing careers in technical and vocational fields. However, there was waning confidence among entrepreneurs in the government's capacity to provide adequate support."

This participant stated that “the influx of youth, including university graduates, into the MSE sector is noteworthy in this regard”. Nonetheless, as the participant pointed out, there had been a significant drop in entrepreneurs' confidence on government intervention, especially regarding expected support.

Discussion

This study sought to explore the trends in MSE development and the challenges of TVET interventions in Bahir Dar city, Ethiopia. The results of the study revealed that, from 2008 to 2021, there was substantial increase in enrollment both in quantity and occupational diversity. Yet, actual development progress remained modest considering the duration of activity. For example, during the maturity stage from 2008-2013, only 10.31% in services, 37.31% in manufacturing, and 19.23% in urban agriculture achieved maturity. Conversely, 52.04% of those registered between 2008 and 2018 remained in the startup phase. These findings indicate that enterprises had not achieved significant improvements in terms of capital, profit, productivity, employment, or market access.

Research on the development of MSEs in Ethiopia has consistently identified low enterprise growth levels and highlighted external and internal constraints affecting performance (Admasu, 2012; Brixiova & Asaminew, 2010; Gemechu & Teklemariam, 2016; Ginja, 2016; Yodit, 2015). For example, Yodit (2015) found out that while the number of textile and leather manufacturing MSEs in the Gulele and Addis Ketema sub-cities increased, 30% experienced stagnation or decline, hindered by a lack of managerial and technical skills. Similarly, Admasu (2012) reported that SMEs involved in textiles, food processing, and

woodworking within the Arada and Lideta sub-cities suffered low performance in capital growth, employment, and market expansion. These studies pointed towards a tendency for enterprises to remain traditional, often producing subpar products confined to local markets with limited technical innovation, underscoring the need for TVET interventions.

As many studies disclosed, human capital is a crucial factor for enterprise growth. The survival, competitiveness, and sustainability of businesses depend on continuous investment in human resources, skill development, and technological support (ILO, 2007; Shelly, 2018; UNCTAD, 2001). Empirical evidence has also shown that training positively influences enterprise performance, assisting small enterprises in adapting to dynamic markets, optimizing limited resources, and reducing failure rates, particularly in their foundational years (OECD, 2002).

In light of this, TVET institutions in Ethiopia are engaged with delivering technical and managerial skills training suitable for varying enterprise levels, introducing innovative technologies tailored to specific work environments, and developing curricula that include manuals, training guides, and monitoring systems (FDRE, 2016; MOE, 2008). The education and training roadmap (MOE, 2020, 2018) also reinforced initiatives to formulate standards for enterprise occupations which serve as a foundation for assessing training needs and delivery methods.

In this study, the effectiveness of TVET intervention in relation to industry extension services (IES) and their alignment with enterprise needs was assessed. The results of the study showed that during 2021 and 2022, IES programs, which encompassed training in accounting, entrepreneurship, technical skills, and technology use, engaged 1,208 enterprises across four sectors, comprising 48.59% of the total 2,486 enterprises in Bahir Dar city. Participation rates varied across sectors, with 95.93% in manufacturing, 86.66% in urban agriculture, and 20.65% in services. Total enrollment based on demand was 86.88% in 2021 and 82.97% in 2022, indicating that the polytechnic college was leveraging its capabilities to support enterprises and their operators effectively. However, the alignment of TVET interventions faced challenges due to the absence of standards for enterprise operations which could inform needs assessments and training content planning. Trainers typically relied on the TVET curriculum (MOE, 2013) designed for formal employment, which did not adequately apply to training the informal workforce.

In this study, job analysis procedures were utilized to establish occupational profiles and develop curricula based on skill needs assessments (ILO, 2022; Tjahjono, 2015). This approach involved delineating occupational tasks and competency matrices relevant to knowledge application, skills, and work behavior necessary for effective needs assessments and training delivery. Nonetheless, achieving this goal proved challenging due to the scale and diversity of informal employment in the city, which demanded structured resources and training expertise.

In addition to the lack of occupational standards, trainers were expected to identify skill gaps and technological needs to tailor training for target enterprises (FDRE, 2016; MOE, 2008). However, the IES was implemented by categorizing entrepreneurs according to 'occupation categories' or 'employment fields' which limited the integration of managerial and technical training across different jobs. Grouping by target occupation was beneficial for aligning with employment activities and stages of enterprise growth. However, due to limited

resources and personnel, specific IES training could not be effectively tailored to particular occupations or clusters. Sporadic visits failed to adequately identify immediate needs or address urgent skill shortages.

Moreover, many trainers possessed academic qualifications or work experiences pertinent to specific sectors but not others. Feedback from participants regarding IES program relevance further supported these limitations, with only 25.33% rating it as 'relevant,' 36.0% as 'partly relevant,' and 38.66% stating it was 'not relevant.' Trainee dissatisfaction was especially pronounced regarding technical skills (46.6%) and technology utilization (53.3%).

Previous studies have also similarly reported the shortcomings of the Ethiopian TVET system in effectively meeting the requirements of the enterprise sector. For example, Sebsib and Yimer (2018), Dereje (2017), and Gebeyehu (2014) pointed out that TVET practices for small-scale enterprises were overly theoretical, often reflecting the preferences of trainers, and lacked a focus on addressing the challenges faced by MSEs. Yamada et al. (2018) specifically noted discrepancies between TVET offerings and the needs of domestic garment workers indicating that while firms emphasized production skills, TVET standards prioritized accounting knowledge and kaizen principles.

Disparities between TVET supply and enterprise demands were attributed to differing expectations regarding performance criteria, which in turn influenced job training content selection and the qualifications of assessors, as well as limited collaboration between TVET and industry sectors. The ILO's report on the state of skills in Ethiopia (1919-2019) echoed these observations, highlighting the TVET system's struggles as stemming from a supply-driven training approach and curricula focused on formal employment, neglecting the situations of vulnerable workers in the informal sector (ILO, 2019, p.43).

The present study also noted significant differences in growth rates among the three sectors examined. The proportion of enterprises achieving maturity was notably higher in manufacturing compared to others, with 16.75% in manufacturing, 14.16% in urban agriculture, and only 4.13% in services for the sample registered between 2008 and 2021. Interview data suggested that participation rates in IES varied by sector, primarily determined by the MSE administration's allocations favoring manufacturing while urban agriculture gained focus in recent years due to its exemplary performance in animal production and support from the National Green Initiatives promoting employment in greening activities.

It is essential to acknowledge that enterprise growth and performance are influenced by numerous factors beyond training, including external elements such as infrastructure, market conditions, input availability, financing, and regulations, alongside internal factors like management quality, motivation, and commitment (OECD, 2002). For sustainable growth, small enterprises require reliable infrastructure services, access to affordable short- and long-term financing, advisory assistance, and awareness of market opportunities. Frequently, small businesses grapple with inadequate entrepreneurial skills and deficiencies in accounting, production management, and strategic planning. The current study underscores the necessity for policy interventions to address both external factors and training needs. Abdelkrim et al. (2019) also highlighted the effectiveness of combining access to credit and training as a support mechanism for MSEs in urban Ethiopia, indicating that providing financial resources alongside training could enhance risk-taking behavior in both men and

women. The World Bank (2009) further emphasized the need for concurrently improving access to finance and land while offering managerial training to mitigate risks associated with mismanagement.

Previous studies in Ethiopia identified constraints in the TVET system's services for MSE occupations. These include inadequate occupational information, limited stakeholder involvement, and deficiencies in capacity and competence (Edukans, 2012, 2009). Other reports highlighted negative public perceptions regarding MSEs, occupational learning, and TVET research (Edukans, 2012, 2009; FDRE, 2016). However, the results of the present study revealed an increase in youth enrollment in MSE occupations, including university graduates.

The study also explored considerable concerns regarding the status and challenges of MSE development and TVET interventions, indicating potential opportunities for enhancing current practices. The governance of the TVET system lacks a cohesive platform for coordinating among various stakeholders and initiatives, which has diminished the overall effectiveness of the TVET skills ecosystem. Historically, TVET and MSE development were overseen by separate ministries until the Ministry of Labor and Skills assumed in 2018 to oversee linkage and coordination between the two sectors. Currently, the technical-vocational and enterprises development department in Bahir Dar city is inadequately organized to achieve education-industry coordination objectives, given the scale and diversity of informal employment in the city and the associated skill and resource needs. Furthermore, opportunities for obtaining formal input from sector ministries (such as agriculture and TVET) to creating uniform standards or shared responsibilities are limited. The lack of an integrated system dedicated to conducting regular skills assessments and translating this data into program development remains a significant challenge.

Conclusions and Implications

This study examined the challenges associated with the development of micro and small enterprises and the interventions of technical and vocational education and training in Bahir Dar city. In Ethiopia, the development of MSEs is deemed essential for addressing unemployment and fostering the country's transformation and renaissance. Consequently, there is an urgent need to mobilize public support and to develop the skills and mindsets of MSE operators to yield positive outcomes. However, the results of this study suggest that sustained efforts in this regard have been lacking.

While there has been a notable increase in youth participation in the MSE sector, overall development trends remain sluggish. The involvement of the industry extension services suffers from a disconnect between planning and implementation, stemming from the lack of enterprise-focused trainings that accommodate diverse employment needs. Consequently, this study proposes strategies that aimed at improving performance in a sustainable manner in Bahir Dar city through addressing design challenges.

The technical-vocational and enterprise development department of Bahir Dar city needs to be equipped with the necessary structural support, resources, and expertise to fulfill its objectives concerning training-industry coordination and the establishment of occupational

standards. Strengthening the IES unit at Bahir Dar polytechnic college is essential, along with assigning specialized trainers for various fields of employment and developing mechanisms for their ongoing professional growth.

Additionally, Bahir Dar polytechnic college could adopt an alternative strategy by grouping trainees based on employment sectors (e.g., nursery and gardening or food, bakery, and restaurant) rather than following the occupational categories used by enterprise administration. This staffing strategy would allow a trainer to focus on 20 MSEs per term, using model enterprises to establish provisional training that meet consultation standards.

International best practices indicate that developing job-analysis procedures for occupational standards and curricula can be implemented quickly and cost-effectively. Therefore, it is crucial to train MSE administrators and TVET providers in effective curriculum development practices such as occupation modeling and task analysis. This could involve launching pilot projects for modeled occupations, creating a local resource base for training, and facilitating information sharing among regions and institutions.

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Developmental assets and hedonic well-being among youths: In the perspective of students' characteristics

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Abstract

This study examined the effect of gender and school types on developmental assets and hedonic well-being, encompassing positive affect, negative affect, and life satisfaction. The sample consisted of 614 randomly selected students from private, public, rural, and urban secondary schools. Data were collected using adapted items from life satisfaction, positive and negative affect, and developmental asset profile scales. The analysis employed Pearson correlation, two-way ANOVA, one-way ANCOVA, and two-way MANOVA. The results indicated no significant correlation between academic achievement and internal assets or life satisfaction. However, the interaction and main effect of gender and school type on internal asset experiences was significant. Additionally, the scores for internal and external asset profile scores varied significantly as a function of gender and private, public rural and public urban schools. The MANOVA result further revealed significant differences in positive affect, negative affect, and life satisfaction concerning gender and school type. It is concluded that students in the rural context have significantly better experience of internal and external asset profiles than students in private and public urban schools. This suggests the need for a thorough investigation of Context-based assets of rural areas, and their adaptation for application in urban settings.

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Introduction

Recently, the conceptualization of youth development has shifted from a deficit to a strength-based perspective (Steinberg & Lerner, 2004). The study of strength-based youth development is not only an emerging research agenda, but also a critical issue concerning individual as well as societal development. This is because how the issue is viewed has enormous theoretical, practical, and even policy implications. The strength-based perspective assumes a developmental plasticity model, which focuses on individual strengths, and considers the importance of external and internal developmental assets as a determinant of

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positive development (Arnold, 2018; Bronfenbrenner, 1979, 2013; Catalano et al., 2004; Lerner et al., 2011).

Developmental assets are conceived as building blocks that relate to lowered risk behaviour patterns and increased patterns of thriving behaviour among adolescents (Scales, 1999). Reviews of literature suggest that cultivating the developmental asset profiles of youths focusing on securing physical and psychological safety, establishing appropriate structure, availing supportive relationships and opportunities to belong, creating positive social norms, presenting opportunities for skill building, and integrating family, school, and community would predict thriving outcomes among youths (Ben-Arieh et al., 2014; Benson et al., 2011).

Internal assets are intrapersonal skills, competencies, and self-perceptions characterised by exhibiting commitment to learning, possessing positive values, social competencies, and positive identity (Scales, 1999; Scales et al., 2011; Benson et al., 2011). On the other hand, external assets are positive features of developmental ecologies that young people receive through interacting with multiple socialization systems, including family, teachers, school, peers, the neighbourhood, and the community in general. External assets are perceived as experiences of support, empowerment, constructive use of time, boundaries, and expectations (Leffert et al., 2010; Roehlkepartain & Blyth, 2020; Scales et al., 2000, 2016; Wiium et al., 2018).

The basic assumption of the developmental asset profile-based model posits that an increased amount of positive experience among youth correlates with a heightened likelihood of successful development (Leffert et al., 2010; Scales, 1999; Scales et al., 2006). This implies that fruitful development is linked to the experience of both external and internal assets, and the more external and internal assets the youth reveal, the better the outcome they would exhibit. Similarly, evidence has shown that developmental assets predict life satisfaction, which is one of the constructs of hedonic well-being (Soares et al., 2019).

The construct hedonic refers to the pursuit of pleasure, which incorporates seeking happiness, life satisfaction, positive affect, and reduced negative affect (Huppert et al., 2013; Kesebir, 2018). Literature suggests that the term hedonic is also conceived as the pursuit of pleasure, gratification, and comfort, thus highlighting positive emotions (Browne, 2014). Literature further showed that hedonic is interchangeably used with ‘happiness’ referring to the levels of positive affect, low levels of negative affect, and a high degree of overall life satisfaction (Browne, 2014; Kesebir, 2018). Studies have shown that developmental asset predicts academic performance (Benson et al.,2011; Liga et al., 2018).

Similarly, research findings have revealed that students perceived academic competence positively influences their autonomous academic motivation, which, in turn, has a positive impact on their school performance (Tian et al., 2014). As reported by Gentz et al. (2021), Johnes and Virmani (2020), and Onnela et al. (2021), the experience of developmental assets, nature of well-being, and thriving varies as a function of sociodemographic characteristics. Likewise, Tiruneh et al. (2021) found that learning outcomes vary across different regions, gender, and urban-rural settings. This suggests that exposure to developmental asset profiles is influenced by the socio-cultural context.

Inconsistent findings have highlighted the influence of geographical location and school type on students' competencies and their exposure to developmental assets. Sanfo and

Ogawa (2021) assert that pedagogical resources such as textbooks, multimedia materials, and digital learning tools, including video and audio resources are significantly correlated with students' achievement and satisfaction. Given that the provision of these pedagogical resources may be less adequate in rural areas compared to their urban counterparts, students in rural schools may face challenges in key school context assets, including achievement motivation, school engagement, and a supportive school climate (Sanfo & Ogawa, 2021).

Correspondingly, a study conducted by Johnson et al. (2021) found that rural students and communities face exceptional challenges that may deflate academic engagement. This study further showed that students in rural areas often travel considerable distances to attend school, which contributes to fatigue and reduced learning time. Furthermore, rural schools might lack the infrastructure for operation, maintenance facilities, and course materials (Johnson et al., 2021). However, the researchers argue that students who pass through such challenges might have a sense of worthiness, become resilient, develop hidden talents and acquire mastery goals, and in turn, they may display better thriving qualities (Ellis et al., 2022; Frankenhuis et al., 2020).

In contrast, private tutoring, prevalent in urban contexts within Ethiopia, emerges as an unintended consequence of high-stakes testing (Yung, 2021). This study further elucidates how high-stakes testing compromises the quality of teaching and learning by narrowing the curriculum. As a result, students often prioritize performance metrics over attaining a genuine understanding of the subject matter. Consequently, such practices tend to inflate test scores while fostering surface learning and rote memorization (Yung, 2021. This phenomenon may adversely affect the internal assets of students in private schools engaged in this practice, potentially positioning them with lower internal asset profiles compared to their counterparts in public urban and rural schools.

Research has also demonstrated a significant and positive relationship between students' family income, parental education, and academic motivation (Li et al., 2021). In Ethiopia, families of students in rural areas often rely on traditional farming methods and may have lower educational attainment compared to families in urban settings. In this context, a study by Miranda and Rodriguez (2022) found that students from rural schools generally exhibit slightly lower academic performance and college aspirations compared to their urban counterparts. Furthermore, their research indicated that social and emotional skills such as commitment to learning and the development of a positive identity are correlated with higher school performance and educational ambitions (Miranda & Rodriguez, 2022). Nonetheless, students in rural environments often face challenging circumstances that can cultivate what are referred to as 'hidden talents,' including enhanced social and cognitive problem-solving abilities (Ellis et al., 2022; Frankenhuis et al., 2020). Consequently, students from rural schools may possess greater internal asset profiles and experience higher levels of life satisfaction.

According to Arslan and Allen (2021), school victimisation is intricately associated with emotional complexities and diminished well-being outcomes. Congruently, adolescents who experience victimisation are more likely to exhibit a declining sense of belonging in the school environment, which adversely affects their sense of competence (Arslan & Allen, 2021). It is noteworthy that bullying tends to be more prevalent in public schools than in private institutions; thus, students attending public schools may experience lower academic

and social competence, which, in turn, has implications for their overall life satisfaction. Additionally, research has revealed that the disparities in academic achievement between rural and urban students can be explained, in part, by individual background characteristics. Findings indicate that students' academic performance correlates moderately (r = 0.24) with their parents' socioeconomic status (SES) (Liu et al., 2020). Given that students in private schools might come from more privileged socioeconomic backgrounds compared to their public-school counterparts, it is reasonable to infer that their academic engagement, life satisfaction, and developmental asset profiles could be significantly enhanced.

In a similar vein, a study by Mohammed and Abera (2022) demonstrated that parents of private school students possess significantly greater cultural, economic, and social capital compared to those of government school students. Furthermore, the positive correlation between subjective income and self-esteem is more pronounced in urban schools than in rural counterparts (Li et al., 2021). These findings indicate that students across rural and urban, as well as private and public-school settings, exhibit notable differences in their asset profiles, affective states, and overall life satisfaction.

In terms of gender differences, Sanfo and Ogawa (2021) found that boys outperform girls in academic achievement. Similarly, Tiruneh et al. (2021) showed that girls in rural schools scored significantly lower than boys in these same schools, as well as lower than both girls and boys in urban schools. Additionally, Abitew (2019) highlighted that female students exhibit lower academic performance compared to their male counterparts. Evidence indicates that males derive greater benefits from attendance at higher-quality schools than females (Holmlund et al., 2023). However, a study conducted with public secondary school students in Addis Ababa revealed that being male was associated with unfavourable experiences related to developmental assets (Desie, 2020). Collectively, these findings suggest significant disparities between male and female students in terms of their exposure to developmental asset profiles, which may consequently impact their well-being in different ways.

Despite existing evidence regarding the influence of socio-demographic variables on developmental assets, affect, and life satisfaction, empirical studies conducted within the African context that employ rigorous methodologies are limited (Dejenie et al., 2023). Moreover, given the distinct socio-cultural context of Ethiopia, it is plausible that youths' experiences with developmental assets may differ significantly from those observed in Western countries (Dejenie et al., 2024). Additionally, there is a notable paucity of research examining the variations in developmental asset experiences among youths in rural versus urban settings. Therefore, this study aims to investigate the contributions of gender, school type, and school location to the developmental asset profiles and hedonic well-being encompassing positive affect, negative affect, and life satisfaction of secondary school students.

To achieve this objective, we formulated and tested the following hypotheses: (H1) academic achievement is positively and significantly connected with students' experience with developmental assets and life satisfaction; (H2) female students in rural schools have significantly better internal asset profile than male and female students in private and public urban schools; (H3) students at public rural schools have significantly better internal asset profiles than students in private and public urban schools (controlling for external assets); (H4) private school students have significantly better external asset profiles than students in

rural and urban public schools (controlling for internal assets); (H5) there is a significant mean difference between males and females, across the three school groups in terms of their scores on internal and external asset profiles; and (H6) there is a significant mean difference between males and females across the three school groups in terms of their hedonic well-being scores (positive affect, negative affect, and life satisfaction).

Methods

Design and Participants

This study employed a quantitative approach and descriptive research design. A quantitative approach was used because the purpose of this study was to explore, describe, and make inferences about the population based on the data from the sample. Likewise, a cross-sectional survey was employed because the nature of the variable demands collecting big data from large participants to generalize the findings.

The participants in this study were grade ten, eleven, and twelve students attending their education in Bahir Dar City (urban) and nearby schools located in rural settings, apart from Bahir Dar City. In Bahir Dar City, participants were drawn from both private and public schools, while participants from rural settings were drawn solely from public schools. All participants from the three groups were selected if and only if they had stayed at that school for at least two consecutive years.

In addition, participants from rural schools were included based on their living situation, such as those attending their education living with their families (leading their life through farming) and living in a rented house in that small town. Given that the participants' background characteristics in the rural context need to be visibly different from those in the urban context, youths whose families are merchants, government employees or any other organization were excluded. In general, participants were selected from 12 schools, four schools from each group. The proportion of participants in each group and the female-to-male ratio were roughly equal. In addition, youths attending their education sponsored by NGOs, institutions, or individuals other than parents and close relatives were excluded.

The number of participants was determined using the formula suggested by Cochran (1977), ($no = (\frac{z^2pq}{e^2}) * d$), where no = the sample size, z =selected critical value of desired confidence level, p = estimated proportion of an attribute which is present in the population, q= 1−p, e= the desired level of precision, and d= is the design effect, which is 3. Since there were no previous findings that could be used as a reference, a 50% proportion was considered. Correspondingly, a 5% confidence level and a 6.5% level of precision were considered. Hence, using the above formula, the participants were 682; however, only 625 questionnaires were properly completed and returned, but again eleven cases violated multivariate normality and were thus discarded. Hence, the analysis was performed based on the data collected only from 614 participants. In selecting the target participants from each group, school, grade level, and section, a multistage sampling technique was applied.

Therefore, from the total of 614 students, 297 of them are females. In terms of grade level, 204, 203, and 207 students were from grade ten, eleven, and twelve respectively. Concerning the participants' residents, 404 were from urban contexts, and the rest 210 were

from schools located in rural areas. Regarding the school type, 208, 209, and 197 were from private, public rural and public urban schools respectively.

Instrument

To measure the construct of hedonic well-being, selected and contextualized items from the positive and negative affect (PANAS) and general satisfaction with life scale were used (Watson et al., 1988). Based on the pilot data, the reliability of the scales was .76, .84, and .81 for positive affect, negative affect, and satisfaction with life, respectively. In addition, the youth's experience of developmental assets was assessed using a developmental asset profile (DAP) scale developed by the Search Institute in 2005 (Scale et al., 2011). Based on the factor analysis results of the pilot data, 18 items were selected and used to measure youths' experience of developmental assets. The internal consistency of the scale is .78 and .72 for internal (11 items) and external (7 items) respectively.

Data Collection Procedure and Ethical Considerations

The researchers have followed rigorous ethical procedures. First, a letter of collaboration was obtained from the Postgraduate, Research and Community Service Office, College of Education, Bahir Dar University. The purpose of the study was explained to the participants and how they were selected. Participation was solely voluntary; the participants were asked for their consent (verbally). The data collectors were given training on how to handle the participants and the data to be collected. Participants were also informed that the information they would provide be kept confidential and used for study purposes only. The privacy of the participants and data confidentiality have never been violated at any stage of this study.

Data Analysis

Data analysis was done in line with the research questions. The first research question was designed to assess the linear relationships between the variables of interest and therefore was analysed using the Pearson correlation coefficient. The second research question was focused on assessing the interaction effects of gender and school type on the internal asset profiles and thus was analysed using two-way between-groups ANOVA. The third and fourth research questions were intended to control the effect of covariances and hence were analysed using one-way ANCOVA. The fifth and sixth research questions were designed to address multiple continuous dependent variables and therefore, were analysed using two-way MANOVA.

Results

Table 1

Relationship between Academic Achievement and Developmental Asset Profile and Life Satisfaction

Variables	Mean	SD	R	Sig.	Variance shared (%)
Academic Achievement	74.19	10.19	.01	.82	.01
Developmental Asset profile	67.85	11.06			

Variables	Mean	SD	R	Sig.	Variance shared (%)
Academic Achievement	74.19	10.19	.05	.20	.25
Life Satisfaction	18.99	5.87			

Note. Statistically Significant at .05

The relationships between academic achievement, developmental asset profile, and life satisfaction were computed using the Pearson correlation coefficient. The results revealed that academic achievement was positively, but non-significantly correlated with developmental asset profiles and life satisfaction. At 0.05 significance level, r=.01, P>.05, and r=.05, P>.05, with developmental asset profile and life satisfaction respectively. This implies that the developmental asset profile of students does not meaningfully contribute to their academic performance. In addition, academic performance is not significantly linked to life satisfaction. This finding might be true, given the existing lack of employment opportunities, conflict, war, poverty, and other unbearable situations in the country. Congruently, due to the above details, students' perception of the value of education might decline.

Table 2

Two-way ANOVA Results Concerning Gender and School Type Interaction Effects on Internal Asset Profile

DV	IV	DF	MS	F	Sig.	η^2
Internal Asset Profile	Gender	1	378.19	8.87	.003	.05
	School Type	2	963.10	22.58	.000	.07
	Interaction	2	147.95	3.47	.032	.01

Note. Statistically Significant at .05

A two-way between-groups analysis of variance was conducted to examine the influence of gender and school type on the experience of internal asset profiles as measured by the developmental asset profile (DAP) scale. The participants were drawn from three school types, namely private, public rural, and public urban. Preliminary analysis was carried out to check violations of the assumptions, including normality, homogeneity, and independent observation; and the researchers ensured that the data met all the assumptions. As demonstrated in the table above, the interaction effect between gender and school type was statistically significant, F (2, 608) = 3.47, P<.05 with a small effect size (η^2=.01). Similarly, there was a statistically significant main effect for gender and school type, F (1, 608) = 8.87, P<.05 with a small effect size (η^2=.05) and F (2,608) =22.58, P<.05 with a medium effect size (η^2=.07) for gender and school type respectively.

Post-hoc comparisons using the Tukey test indicated that the mean score for public rural was significantly different from that of private and public urban schools, in which the internal asset profile of public rural students was found to be meaningfully better than the other two groups. Public urban and private students did not differ significantly; however, the mean difference indicated that students at public urban schools tend to have better internal asset profiles than private students. This might be true because students of public rural areas

might experience different challenges that help them develop hidden talents and, in turn, enhance their internal asset profile. It is also sound to propose that students of the public urban might face more challenges than the private, whose needs might be well fulfilled by their parents and might be in a 'comfort zone'. Regarding the effect of gender, the mean difference indicates that females have better experiences of internal asset profiles than males. Female students in rural school contexts have significantly better internal asset experiences than those in private schools. Correspondingly, males in the rural context have significantly better internal assets than those in public urban and private schools.

Table 3

One-way ANCOVA Results about the Effect of School Type on Developmental Asset Profiles

DV	IV	DF	MS	F	Sig.	η^2
Internal Asset	External Asset Profile (Covariate)	1	8420.45	282.28	.000	.32
	School Type	2	421.67	14.16	.000	.05
External Assets	Internal Asset Profile (Covariate)	1	5627.59	282.96	.000	.32
	School Type	2	377.79	18.96	.000	.06

Note. Statistically significant at .05; error DF=610

A one-way between-groups analysis of covariance was conducted to compare the asset profile experiences of private, public, rural, and public urban schools. Preliminary tests were conducted to ensure that there was no violation of the assumptions of normality, linearity, independent observation, homogeneity of variances, or reliable measurement of the covariate. The researchers found no serious violations of the above assumptions.

As presented in Table 3, after controlling the external asset profile scores, there was a statistically significant difference between the school types on the internal asset profile score, F (2, 610) = 14.16, P<.05, with small effect size (η^2= .05). Additionally, a strong correlation is observed between the external and internal asset profile scores, as indicated by a partial eta-squared value of .32. Regarding the school type differences in the external asset profile while controlling for the internal asset profile, there was a statistically significant difference, F (2,610) =18.96, P<.05, with a medium effect size (η^2=.06).

Congruently, the pairwise comparison shows that in the internal asset profile, the difference is associated with private and public schools, in which participants of private schools have scarce internal asset experiences; however, no significant difference is observed between the public rural and public urban contexts. Regarding external assets, the pairwise comparison also shows that the difference relates to public urban schools, which further uncovered that participants of public urban schools have impoverished external asset experiences. There was no significant difference between the public rural and private contexts.

This finding might be true because the three groups might have meaningfully different experiences. For example, participants in the public-school context are prone to different challenges which might help them develop strength and possess resilient qualities and then

improve their internal assets. However, students in the private school context might not have faced challenges that would serve as a springboard to enhance their adversity quotient. On the other hand, students in public urban might be from low-SES families and might receive negligible support.

Table 4

Two-way MANOVA Results Concerning Gender and School Type Interaction Effects on Internal and External Asset Profiles

IVs	Wilks's Lambda (λ)	F	Hypoth. DF	Error DF.	Sig.	η^2
Gender	.98	4.77	2	607	.009	.02
School Type	.88	21.00	4	1214	.000	.07
Gender*School Type	.98	2.44	4	1214	.045	.01
Between Subject Effect						
Source	Dependent Variable	Df	Mean Square	F	Sig.	**η2**
Gender	Internal Asset Profile	1	378.19	8.87	.003	.014
	External Asset Profile	1	28.50	.98	.323	.002
School Type	Internal Asset Profile	2	963.10	22.58	.000	.069
	External Asset Profile	2	783.93	26.94	.000	.081
Gender * School Type	Internal Asset Profile	2	147.95	3.47	.032	.011
	External Asset Profile	2	30.08	1.03	.356	.003

Note. Statistically Significant at .05; error DF=608

A two-way between-groups multivariate analysis of variance was performed to investigate the effects of gender and school-type differences in internal and external asset profiles. The independent variables were gender and school type. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity; no serious violations were noted. The interaction effect was significant: Wilk's λ = .98, F (4, 1214) = 2. 44, P=.045, with a small effect size (η2 = .01). The main effect of gender was also significant (Wilk's λ = .98, F (2,607) = 4.77, P< .05, with a small multivariate effect size (η2 = .02). Similarly, the main effect of school type was significant (Wilk's λ = .88, F (4,1214) = 21.00, P< .05, with medium multivariate effect size (η2 =.07). This indicates that the linear composite of internal and external asset profile scores differs as a function of gender and private, public rural, and public urban schools.

Regarding the internal asset profile, the tests of between-subjects effects indicate a significant interaction and main effect for both independent variables. At .05 level of significance, f (2,608) =3.47, P<.05, f (2,608) =22.58, and f (1,608) =8.87, P<.05 for

interaction, school type, and gender, respectively. However, regarding the external asset profile, the test between subjects indicated that there was no significant interaction effect. The only significant result for external assets is found with school type differences, f (2,608) =26.94,) <.05.

Furthermore, the Tukey post hoc test indicated that in the internal asset profile, students from public rural schools had significantly better experiences; however, there was no significant difference between public urban and private students. Regarding the external asset profile, there was a significant difference across all the school types. Correspondingly, the mean difference showed that students in public rural areas had better external asset profiles, followed by those in private schools. Given that students in the rural context have passed through lots of challenges might help them to develop hidden talents and become resilient enough. In addition, compared with the urban situation, the community in the rural context is more homogeneous and might have a culture of support and empowerment.

Table 5

Two-way MANOVA Results Concerning Gender and School-type Interaction Effects on Hedonic Well-being (positive and negative affect, and satisfaction with life)

IVs	Wilks's Lambda (λ)	F	Hypoth. DF	Error DF.	Sig.	η^2
Gender	.979	4.30	3	606	.005	.021
School Type	.895	11.48	6	1212	.000	.054
Gender * School Type	.978	2.25	6	1212	.036	.011

Between Subject Effect						
Source	Dependent Variable	Df	Mean Square	F	Sig.	**η2**
Gender	Positive Affect	1	.038	.004	.950	.000
	Negative Affect	1	184.23	12.12	.001	.02
	Life Satisfaction	1	.062	.002	.966	.000
School Type	Positive Affect	2	239.29	25.22	.000	.08
	Negative Affect	2	14.72	.97	.380	.003
	Life Satisfaction	2	368.78	11.08	.000	.04
Gender * School Type	Positive Affect	2	2.23	.26	.77	.001
	Negative Affect	2	88.74	5.84	.003	.02
	Life Satisfaction	2	51.49	1.55	.214	.005

Note. Statistically Significant at .05; error DF=610

A two-way between-groups multivariate analysis of variance was performed to investigate the effect of gender and school type differences on hedonic well-being constructs (positive affect, negative affect, and life satisfaction). Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity; no violations were noted. The interaction was significant, Wilk's λ = .98, F (6, 1212) = 2.254, P ≤.05, with a small effect size (η2 =.01). The main effect of gender was also significant (Wilk's λ = .98, F (3,606) = 4.30, P< .05, with a small effect size ($\eta 2$ = .02). Similarly, the main effect of school type was significant (Wilk's λ = .89, F (6,1212) = 11.48, P< .05, with a small multivariate effect size (η2 = .05). This indicates that the linear composite of positive affect, negative affect, and life satisfaction differ as a function of gender in private, public rural, and public urban schools.

Regarding the positive affect, the tests of between-subjects indicated that there was no significant interaction effect; however, the main effect was significant only for school types, f (2,608) =25.22, P<.05. Tukey's post hoc test indicated that students in public rural areas had significantly better scores on the positive affect scale than public urban and private students; however, students in the public urban group were not significantly different from the private students. In terms of negative affect, the interaction was significant (f (2,608) =5.84, P<.05). In addition, there was a significant difference in gender, f (1,608) =12.12, P<.05. However, the main effect of the school type was not significant. Concerning life satisfaction, the interaction effect was not significant; however, there was a significant result for school type, f (2,608) =11.08, P<.05, with multivariate effect size (η2 = .04). Furthermore, Tukey's post hoc test showed that students in public rural areas had significantly better satisfaction with life than public urban and private students, but there was no significant difference between students in public urban and private schools. This finding might be true because the challenges that students in the rural context have passed through might help them develop better qualities of resilience.

Discussion

The Pearson correlation analysis indicated that, unlike our hypothesis, academic achievement is not significantly linked with experiences of developmental asset profiles and satisfaction with life. This finding contradicts the previous studies. For instance, this result challenges a study indicating that developmental assets predict academic performance (Benson et al., 2011; Liga et al., 2018). This finding also contradicts the study conducted by Tian et al. (2014), which indicated that students perceived academic competence positively influenced their autonomous academic motivation, and in turn, had a positive impact on their school performance. Furthermore, this finding contradicts a study by Soares et al. (2019), which revealed that experience with developmental assets predicts life satisfaction. However, this finding might be true, given that those with better developmental asset profiles are engaged in mastery rather than performance goals. In addition, given that there is a limited job opportunities in the country, students with better external asset profile might not perform well in their studies because they might not give a priority to it.

Regarding the effect of gender and school type on the internal asset profile of participants, a two-way between-group analysis of variance indicated that both the interaction

and main effects were significant. This finding is in line with our hypothesis that female students in rural schools have better internal asset profiles. However, this finding contradicts previous results. For example, considering the resource availability, infrastructure, and location of the school, Sanfo and Ogawa (2021) and Johnson et al. (2021) showed that students in rural schools, particularly females, have poor exposure to external assets, which in turn affects their internal asset profile. However, the current finding might be true because internal assets are more related to the ability to overcome challenges, which might be more common among students in rural contexts.

Concerning the effect of school type on the internal and external asset profile, one-way ANCOVA indicated that in the internal asset perspective, participants of private schools have significantly deprived experience, whereas, in the external asset, participants of public urban schools have significantly underprivileged experiences. This finding is consistent with our hypothesis; however, it contradicts previous findings. For instance, studies suggest that students in private schools have significantly better economic and social capital, which may enhance their external and internal asset profiles (Mandell et al., 2022; Whitlock, 2006). This finding further contradicts the assumption of the developmental asset profile-based model, which postulates that the greater the amount of positive experience the youth reveal, the greater the likelihood of successful development (Leffert et al., 2010; Scales, 1999; Scales et al., 2006). Despite its contradiction with previous studies, the current finding might be true because positive experiences may not necessarily enrich hidden talents which result from passing through challenging circumstances.

Regarding the effect of gender and school type differences, the findings showed that for the internal asset profile, both the main and interaction effects were significant; however, for the external asset, only the main effect was significant. This finding contradicts previous studies. For example, in this study, female students in rural schools were found to have better exposure to asset profiles. However, regarding gender differences, a study conducted by Sanfo and Ogawa (2021) showed that boys perform better than girls, and Tiruneh et al. (2021) revealed that girls in rural schools scored significantly lower than boys in the same rural schools, and girls in rural schools scored significantly lower than both girls and boys in urban schools. Congruently, Abitew (2019) found that female students had lower academic performance than their male counterparts. The current finding might be true, given the ups and downs of students, particularly females, in the rural context. The challenges related to the distance from the school, supporting family members, and engaging in other tasks requested by the family might help them develop a 'hidden talent' and have the motive to escape from such challenges, which might in turn help them to work on their personal development.

Conclusion and Implications

Given the current educational practice in the study context, students' developmental asset profiles have inadequate contributions to learners' life satisfaction and academic performance. However, students in the rural context have better personal asset profiles than students in private and public urban schools. Being male is associated with deficient experiences of assets. Accordingly, students in the rural context exhibit better positive affect and life satisfaction. Consequently, schools in the rural context were found to contribute more

to enriching the assets of students. Hence, it is concluded that the socio-cultural context of the rural schools shall be well explored and adapted to the urban context.

Parents' involvement in students' learning and handling mechanisms of teachers in the rural context shall be thoroughly investigated and accustomed to being applied in urban contexts. In addition, the school environment and teaching-learning practices shall be re-evaluated and designed to enrich the internal and external assets of learners beyond delivering the subject matter. Besides, parents, teachers, and school administrators shall pay due attention to cultivating the assets of learners rather than merely being preoccupied with their academic performance.

Interventions targeting students shall give due attention to the trajectories of how the burden students face in the family, school, and community are related to their academic and social competence, as well as their positive development. As publicised in the current finding, youths passing through nasty conditions might develop a better adversity quotient and become more resilient which in turn enhances thriving. Additionally, the contribution of private schools to enhancing internal asset profiles, including positive value, positive identity, social competence, and commitment to learning shall be further examined. Furthermore, research with an experimental design shall be conducted to further investigate and understand how interventions in internal and external assets contribute to positive youth development outcomes.

Limitations

Despite its contribution in demonstrating the interplay of sociodemographic factors on the exposure to developmental assets and hedonic well-being, this study has some limitations. First, in this study, cross-sectional survey data were collected which did not show age-related changes in the participants. Additionally, this study is based on self-report data which might create a social desirability bias. Furthermore, this study utilized only quantitative data and hence it did not show the participants' unique experiences.

Declaration of Interest Statement

The authors declare that this paper is original work; all sources used in this study are properly acknowledged, and there is no competing interest.

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Faculty members' conception and practice of teacher professional development: Implications for quality instruction at the university of Gondar, Ethiopia

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Abstract

This study aimed to examine faculty members' perceptions and practices regarding teachers' professional development in enhancing instructional quality at the University of Gondar, Ethiopia. To achieve this purpose, a qualitative research approach using a descriptive case study design was utilized. Data were collected from teachers, department heads, the education quality assurance office coordinator, a dean, and the leader of the higher diploma program, of the university through semi-structured interviews, observations, and focus group discussions. Data analysis was conducted through interpretative methods emphasizing narrative description. The findings revealed that teachers hold misconceptions about professional development and exhibit reluctance to engage in professional development activities, such as workshops and meetings. Additionally, the level of academic dialogue among teachers was found to be insufficient, leading to the dichotomization of faculty into 'old' and 'new' categories, which negatively impacted their commitment to professional development initiatives. To address these challenges, it is recommended that teachers cultivate a sense of responsibility and intrinsic motivation toward their professional development while fostering collaborative relationships. Furthermore, the Ministry of Education is urged to redesign and develop professional development training programs that avoid, if not reduce, the one-size-fits-all and top-down approaches currently prevalent in professional development initiatives.

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Introduction

Nations around the world have emphasized quality education as a major goal of their educational reform initiatives (Borko, 2004; Desimone et al., 2006). There is a broad consensus that high-quality education is more critical today than ever before, given the increasing demand for advanced knowledge and skills that are requisite for thriving in the

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complexities of the 21st century. In response to this concern, many reform initiatives have focused on the quality of classroom teaching, more specifically on the teacher as the key to improving learner performance (Borkoet al., 2010; Desimone et al., 2006; Guskey, 2002; Knight& Wiseman, 2005; Marcelo, 2009).

In contemporary educational discourse, lifelong learning has emerged as a pivotal concept for teachers, enabling them to discern the evolving demands of information and societal needs while simultaneously clarifying their professional roles. Professional development of teachers is more effective when teachers actively construct knowledge and learn together with colleagues ((Darling-Hammond & Richardson, 2009; Villegas-Reimers, 2003). By sharing knowledge and experience, giving each other feedback, and looking at knowledge by using varying perspectives, teachers can jointly construct knowledge influenced by the context in which it will be applied (Webster-Wright, 2009)

Professional development of teachers gets its roots from different learning theories. It is mainly related to adult learning theories which consider learning as a lifelong process. According to Swift and Kelly (2010), adult learners are highly motivated by their specific needs and interests. In addition to adult learning theories, professional development of teachers is also based on other learning theories such as transformational learning theory, self-directed learning theory, social learning theory, and constructivist learning theories which have great contributions for teachers' professional development (Cranton, 1996; Cranton & King, 2003; Trotter, 2006)

These theories emphasized that teachers as adult learners are developing their profession by learning from experience, self-reflection, active participation, and constructing meaning from what they confront while performing their teaching task (Riley & Roach, 2006). In the last decades education in Ethiopia has been experiencing rapid and multiple reforms. In line with these reforms, teacher education has got wider attention. In addition, the Ethiopian Education Development Roadmap draft indicated that there is still a need to add some provisions to the policy; ensure proper implementation of the existing provisions and develop new strategies (MoE, 2018). Hence, the purpose of this study was to examine faculty members' conception and practice of teachers' professional development and its implications in improving teaching.

Statement of the Problem

Recent literature recognizes that the quality of teachers is a crucial determinant of the educational experiences and achievements of learners (Mestry et al., 2009). The success of reform initiatives depends on the quality of teachers. As a result, professional development of teachers has become a major focal point of such initiatives (Boyle et al., 2005; Desimone et al., 2006; Steyn, 2008).

In Ethiopia, the history of teacher education dates back to the 1940s (Tesfaye, 2014). Since that time, the development and expansion of teacher education have progressed slowly, impeded by various constraints. In response to these challenges, the education sector has implemented significant reforms. Education had been prioritized on the national agenda (World Bank, 2013), culminating in the launch of a new education and training policy in 1994 (TGE, 1994).

According to the study conducted by the Reading for Ethiopia's Achievement Development Technical Assistance, Ethiopia's education and training policy incorporates many of the principles of commonly accepted good practices recognized in the literature, including an emphasis on "active learning, problem solving, and student centered teaching methods (MoE, 2004b; READTA, 2014). In Ethiopia, teacher professional development programs are designed to enhance the quality of education by advancing the skills and professionalism of teachers. These initiatives aim to develop reflective practice among teachers and elevate the standards of teaching and learning across the country (MoE, 2004a).

Despite the significant contributions of professional development (PD), many educators do not recognize the importance of PD activities. Some teachers even exhibit a lack of engagement with training, overlooking PD as a vital component of lifelong learning. Moreover, experienced teachers encounter substantial challenges each year, including changes in subject matter, the introduction of innovative instructional methods, advancements in technology, updates to laws and procedures, and evolving student learning requirements. Educators who do not partake in adequate PD opportunities are likely to stagnate in their professional growth, ultimately compromising student learning outcomes (Mizell, 2010).

Researchers have also identified the "one-shot" approach as one of the reasons for the ineffectiveness of some PD programs (Fullan, 2007; Sandholtz & Scribner, 2006). In a typical one-shot approach, an expert delivers knowledge on a particular topic to a large audience within a limited time period. Here teachers' attitudes toward the topic are not deemed relevant. This approach makes the PD of teachers' intellectually superficial, disconnected from deep issues pertaining to the curriculum and learning, and causes it to be fragmented, and noncumulative (Yoon, 2016).

Acknowledging the importance of the school context, Mohamed (2006) remarked that teacher development programs should not be of a "one-size-fits-all" nature, but rather the design and content of the program must take into account the context in which the program takes place. On the same issue, Richards (1991) and Schmoker (2006) further argue that teacher education must adopt a bottom-up approach, where the starting point is an internal view (arising from the teachers themselves) of teaching rather than an external one (imposed on them by an outsider).

Robinson (2002) stated that PD programs must have meaning for participants and it is important that they identify their role in the process of development. This is to mean that in their PD practices, university teachers are expected to assess their students on continuous basis, use different active learning strategies, collaborate with their colleagues and reflect systematically and rigorously based on evidence. This makes the PD activities contextual, flexible, collaborative, evaluative (including self-evaluation and continuous assessments) which allow them to be lifelong learners and improve their teaching.

To allow professional development proceed successfully, it should be a continuous process and contributing to the general improvement of education (Bredeson, 2002). The purpose of PD programs should be both to enable and support teachers to provide the best possible instruction so that they become excellent by gaining competence, confidence, commitment and a sense of the joy of teaching (Anderson, 2001; Day, 1999; Day & Sachs, 2004).

In the context of the aforementioned topic, professional development (PD) is regarded as a crucial aspect of teacher education in Ethiopia. However, the effectiveness of this lifelong learning strategy is hampered by various challenges related to conceptual understanding, management practices, leadership structures, and the working conditions of teachers (Gemeda & Tynjälä, 2015). These authors contend that there is an urgent need to reform educational management strategies, enhance teacher education programs, reinforce research-based practices, and improve the working conditions for educators.

Similarly, numerous local studies indicate a concerning deficiency in the implementation of professional development activities. For instance, a report by the Ministry of Science and Higher Education, which evaluated a series of workshops on the Higher Development Program (HDP), highlighted that the program was intended to enhance teachers' professional competencies, improve student learning outcomes, and elevate the overall quality of education (MoSHE, 2019). However, the report identified several gaps in the program's implementation. Supporting this assertion, the study conducted by Alemayehu and Solomon (2007) revealed that some instructors expressed dissatisfaction with the HDP, perceiving it as tedious, redundant, irrelevant to their current needs, and ultimately a waste of time. In addition, Hunde (2008), in his study on the application of HDP training skills in classroom instruction at Jimma university found that graduates were unable to apply the HDP training skills to the expected standard. He recommended that further research be undertaken to identify the barriers hindering the effective implementation of these skills.

Villegas-Reimers (2003) identifies several key factors—conceptual, contextual, and methodological—that contribute to the effectiveness of professional development programs for teachers. Conceptual factors pertain to how change, teaching, and teacher development are understood and interpreted. Contextual factors encompass the influence of school leadership, organizational culture, external agencies, and the degree of support for site-based initiatives. Methodological factors relate to the specific processes and procedures that are implemented to facilitate teacher PD.

Importantly, teachers must personally acknowledge the value of professional development. They must recognize, understand, and accept the necessity for their own professional growth. A teacher who views PD positively actively seeks to acquire new knowledge, skills, attitudes, values, and dispositions. Such dispositions include pride, self-esteem, teamwork, commitment, motivation, creativity, and vision. These attributes must be embraced by the teacher for meaningful development to occur (Mosha, 2006; Komba & Nkumba, 2008).

In light of this, this study seeks to examine the perceptions and practices of faculty members regarding teachers' professional development and its implications for enhancing teaching effectiveness at the College of Education, University of Gondar. The research is guided by the following fundamental questions: (1) how do faculty members conceptualize professional development? (2) What are the current practices related to teachers' professional development?

Methods

Research Approach

This study employed the qualitative research approach. In the realm of social science research, diverse forms of qualitative inquiry began to emerge in the late 1970s (Schwandt, 2000). Since that time, qualitative research has garnered growing recognition across various academic disciplines (Patton, 2015). Qualitative research seeks to understand phenomena in their distinctiveness within specific contexts and the interactions that occur therein. This methodological approach provides a comprehensive understanding of the subject matter by analyzing textual data, presenting nuanced perspectives of the participants, and conducting investigations in naturalistic settings (Creswell, 2012).

Research Design

This study employed a descriptive case study design. According to Yin (2003) case study allows investigators to retain the holistic and meaningful characteristics of real-life events. As opposed to the natural world, the social world deals with the complex features of human thought and ideas, including their consequences which are very difficult to easily count and measure using numbers.

In light of this, the present study utilized a descriptive case study design, which facilitated a comprehensive exploration of the phenomena under investigation through detailed descriptions and narrative interpretations of the data. This design was useful to elucidate both the theoretical assumptions and the actual practices of teachers regarding their professional development activities.

Sampling

The participants in this study included teachers, a dean, quality assurance and audit officer, the HDP leader, and department heads from three academic units: Educational Planning and Management, Adult Education and Community Development, and Special Needs and Inclusive Education. Purposive sampling was employed to determine the research site and select participants, as recommended by Suri (2011) and Best and Kahn (2006). This technique allowed for the identification of participants who could provide deep insights into the issue at hand. According to Yin (2003), purposive sampling is particularly suitable for qualitative case study designs, as it facilitates the selection of individuals who are adept at uncovering and understanding the complexities of the research topic.

To ensure a representative sample, various criteria were established for participant selection. The criteria included: (a) diversity in academic disciplines; (b) gender representation; (c) varied levels of work experience; and (d) willingness to participate in the study. Given these criteria, the researchers selected two instructors from each of the three departments mentioned above. Additionally, three department heads, one dean, and the head of quality assurance and audit were purposively included for interviews. Consequently, a total of twelve participants took part in this research.

Data Gathering

The use of multiple sources of evidence is a hallmark of qualitative case study research (Yin, 2003). Qualitative data encompass direct quotations from individuals regarding their experiences, opinions, feelings, and knowledge (Patton, 2015; Merriam, 2009). Consequently, this study employed various data gathering methods; including observation, semi-structured interviews, and focus group discussions.

Interviews were conducted with department heads, the dean, the leader of the higher diploma program, and the officer responsible for quality assurance and audit. The teachers selected from the three departments served as subjects for observation. Additionally, six participants—comprising three department heads and three teachers—were specifically selected for the focus group discussion based on their expertise and knowledge relevant to the topic under investigation. This strategic selection aimed to ensure that the conversation would yield insightful and pertinent information.

Data Analysis

It is important to acknowledge that qualitative data inherently permits multiple interpretations, owing to the interpretative nature of qualitative analysis (Cohen et al., 2007). In this study, data derived from interviews, observations, and focus group discussions were meticulously examined by consulting field notes and audio recordings collected during the data gathering process. The gathered information was then transcribed, examined, and categorized into themes based on their shared characteristics. The themes were subsequently explored through interpretive and reflective analyses, framed within the perspectives of the participants.

Ethical Considerations

The primary purpose of ethical standards in research is to protect study participants from harm, deception, and unethical behavior, thereby safeguarding individuals, their communities, and their environments. Hence, the research process in this study was meticulously designed to comply with established professional and ethical guidelines.

In this regard, the researchers provided a comprehensive explanation of the study's objectives to the participants, ensuring that they received clear and accessible information regarding the research and its potential benefits. Confidentiality was rigorously maintained, with participants fully informed that their data would be utilized solely for research purposes. Furthermore, they were assured of their anonymity in the presentation and discussion of the study's results. Each participant was consulted individually, and all expressed their consent and willingness to participate. To further protect the anonymity of the participants, pseudonyms were used in the presentation and analysis of the findings.

Results

Academic Members' Conception of Professional Development

Differing views on Professional Development

The response of the participants showed that PD is conceptualized differently. In one way PD is considered as essential and valuable for teachers' teaching but in the other way it was reported as a burden imposed by the top management on teachers. The participants stated that taking part in PD helps them choose and employ appropriate teaching strategies, instructional materials, classroom management skills, student behavior, and assessment methods. During the interview, it was noted that teachers had various views on professional development. There were participants who regard professional development as focused short term training.

On the contrary there were others who consider PD as lifelong learning. As an illustration, one of the interviewees described PD as follows. "PD is any effort to develop a profession. It is a continuous process that helps us to exist in the teaching learning environment. A professional should develop his/her profession. PD is a lifelong learning process" (Abrham, 29/10/2022).

From the aforementioned statement, it is clear that PD is a continual learning process that is demanded by all professionals in order to adapt to the current environment. To be able to adapt to the dynamics of the teaching profession, teachers must engage in a continual learning process. To further emphasize this, a different interviewee added:

> PD is a continuous practice of teachers' self-learning by identifying the gaps observed in knowledge, skills and attitudes that help us gain knowledge and skills when we interact with our friends and students. PD is a kind of capacity building activity which is continuous and lifelong learning throughout our life (Andarg, 18/12/2022).

As it can be depicted from the respondent's suggestions, PD is a continuous learning process for teachers to help them identify gaps in knowledge, skills and attitudes. It is further explained that they gain knowledge and skill while they interact with their friends and students. Through this interaction PD serves as a capacity building activity which continues throughout their life.

Other participants consider PD as a short- term training which is given formally with a specific schedule. In relation to this, one of the interviewees said that "the training is given only for one year" (Momina, 01/11/2022). In this case the interviewee considers PD as a short-term activity forgetting its continuous nature.

It was noted in the FGD that teachers were reluctant to acknowledge the significance of PD for enhancing teaching effectiveness as a result of their misunderstandings of professional development. Concerning the concept of PD among the academic staff, one of the participants in the FGD puts "some academic members consider PD as something which is not essential for teachers. Such wrong conception/understanding of PD could affect our activity/task" (Gelanesh, 26/03/2022). From the response of this FGD participant, it is possible to deduce that some academic members have misconceptions on PD while others capitalize its importance.

The researcheres found that certain academic members have incorrect conception of PD, which reflects their unfavorable views toward workshops and meetings. Some people view PD as formal and are more inclined to a type of PD that is beneficial for job advancement and better pay. However, PD goes beyond this and includes teachers' formal and informal activities.

Some academics agree with the aforementioned viewpoint and believe that all teachers should participate in professional development activities. During the FGD session, one participant mentioned this and said the following:

> A Profession is like running water. It is clean unlike stagnant water which is full of unnecessary dirt materials. A knowledge gained at a one shot training and untimely is a one which will not go with the change that exists everyday (Abel, 14/03/2022).

From the above verbatim it could be said that a profession is like running water which continuously flows. As running water can clean the dirt materials, professional development can help teachers to have the expected knowledge, skills and attitudes which are timely, make teachers adaptive and competent to the changing world.

Consequently, it can be acknowledged that teachers' engagement in professional development activities is crucial for their competence in an ever-evolving educational landscape. The experiences gained through these professional development opportunities equip teachers with the contextual knowledge and skills essential for effective instructional practices, thereby enhancing the overall quality of education.

Current Practice of Professional Development

Practice goes out of the trajectory and malpractice progressed

When we see the practice of PD at the college it is not properly practiced as expected. In relation to this, one of the participants (interviewees) suggested the following: “honestly speaking PD is not effectively practiced in our college except the induction program which is given for 1-3 days by the university” (Gelanesh, 21/10/2022).

From the interviewee's response above, it is possible to say that PD is not widely practiced at the college, indicating that the college's PD culture is ineffective. Another interviewee backed this up by stating “it is difficult to say that PD is effectively practiced in the college. Of course, there are some activities which are done by few teachers” (Asfaw, 22/10/2022).

The department heads have also confirmed the low practice of PD at the college confirming that teachers are reluctant to participate in PD activities except in the HDP. Furthermore, one of the participants added that:

> First and foremost, it is essential to have a strategy that outlines the roles and responsibilities of teams and individuals as well as a clear monitoring and assessment system. When we examine how our college operates in this area, we find that there isn't a unified strategy that holds everyone accountable for either their own performance or the shortcomings of the group (Abrham, 10/12/2022).

As it can be understood from the respondent’s suggestions, the college has a low level of PD practice, and instructors’ participation in PD activities was found to be low. One of the reasons for this, according to the respondents, is lack of a specific expert who can run PD as a system. There is no a planned and organized group in charge of planning, leading, supervising, and evaluating professional development at the institution in order to increase teachers' capability.

Another interviewee suggested that “Obviously, the college's quality assurance and audit is meant to adhere to the professional development of its teachers; however, its scope is restricted to overseeing teachers' performance evaluations" (Andarg. 22/10/2022). As suggested by the interviewee, the PD of teachers is not given due emphasis by different bodies. Even the concerned ones are simply doing their own routine tasks forgetting the role of PD in improving teachers’ teaching performance and professional competency. As a result of this, teachers are not strictly following different PD activities as expected.

For more evidence, let’s share an experience which the researcher faced during informal observation of Higher Diploma Leader who was correcting the portfolios of teachers. The Higher Diploma Leader was simply rushing by counting the pages of the portfolios without reading the detail contents of the portfolios. The researcher asked the Higher Diploma Leader why he is doing so and he replied that “teachers develop their portfolio carelessly for the sake of formality and have less devotion to the training. They even dislike to be commented by their trainers. What they need is to get the certificate of completion” (Yirdaw, 11/11/2022). The trainer also added that “much of the participants are passive during the training even some do not attend training sessions regularly” (Andarg, 11/11/2022).

The preceding data indicate that some teachers exhibited a passive engagement and minimal commitment to the higher diploma training sessions, demonstrating a lack of diligence in portfolio development. Furthermore, their capacity for reflective practice and willingness to accept constructive feedback from trainers appeared to be inadequate. Their participation in the training often seemed motivated solely by the desire to obtain the certification. However, it is essential to recognize that the primary objective of the HDP is to cultivate reflective practitioners and enhance the quality of instructional delivery.

Underlining the teachers’ low commitment and participation on professional development activities, one of the participants in the FGD puts the following: “By the way, a teacher who does not advance in his field is akin to someone who does not do the dishes. If so, it could be challenging for him or her to respond appropriately” (Eyob, 25/04/2022).

In this case it is possible to say that if academic members do not participate in PD activities they could not be able to have a knowledge which is timely and contextual. They could not be competent to perform their tasks effectively. Hence, teachers should engage in PD activities continuously to be effective in their teaching and be lifelong learners by making themselves capable of adapting the different changes in this dynamic and changing nature of teaching. In relation to this, one of the interviewees suggested that "Teachers' involvement in professional development activities is crucial and beneficial to enhance their subject matter expertise, pedagogical abilities, and attitude competency" (Asfaw, 09/12/2022).

As it can be understood from the idea of the respondent, teachers’ participation in PD activities can help them improve their subject matter knowledge, pedagogical skills and change in attitude which in turn helps them to improve their skills of using appropriate methods of teaching, motivating students and managing unexpected events which happened in their classroom. This can tell us that PD is essential in improving teachers’ classroom practices.

On the contrary an interviewee explained the practice of teachers on PD activities at the college as follows. “However, as a teacher, I did not consistently organize professional

development activities and assess my own gaps. Beyond my regular teaching duties, I did not fulfill any expectations placed on me" (Abrham, 10/12/2022).

From the above suggestion of the interviewee, it is possible to deduce that the practice of teachers on PD activities in the classroom is weak which is not planned, controlled and assessed by each other as expected. Teachers mostly do their teaching tasks as usual. Supporting the low participation of teachers and their lack of applying their PD training skills in to the actual classroom practices, the dean of the college added that "Teachers, of course, take part in a college-prepared training program, but they did not put the skills into practice" (Andarg, 08/11/2022).

From the above responses of the interviewee it is possible to understand that teachers' application of the skills in to their actual classroom teaching is poor. Furthermore, they did not share different training activities among each other except attending the trainings. Generally, the qualitative data obtained from the participants of this study suggest that the practice of PD activities was low at College of Education, University of Gondar.

Discussion

Teachers' Conception of Professional Development

It was found that there are differences among teachers in relation to their conception of PD activities. The participants suggested that PD is continuous and lifelong learning process for improving the capacity of a professional. On the contrary, others consider it as a burden imposed on teachers by management bodies which contradicts the reality in that PD is helpful for improving teachers' teaching performance skills by using or applying different teaching methods, skills of classroom management, time management and other skills of solving problems in the teaching learning process. This shows us that there exists a difference on the conception of professional development among teachers.

Concerning the different conceptions and understandings among teachers on PD, we can see the works of different writers. For example, Bredeson (2000) said that there appears to be a lack of consensus among the scholars on a working definition for teachers' professional development. This is evident from the various definitions of teachers' PD offered in the literature. Interestingly, as highlighted by Bredeson (2000), there are a plethora of terms such as in-service, staff development, continuing education, training, and self-improvement that are used interchangeably with the term PD with little regard for any conceptual and practical differences. Guskey and Huberman (1995) explain that this may happen as the concept of teachers' professional development can be viewed from several different perspectives, each with its own conceptual premise and is informed by different bodies of research.

Hargreaves and Fullan (1992, p. 2), who support the view that PD is a lifelong learning process, pointed out that "teacher development as knowledge and skill development" is essential for both teachers' and students' long-term success in learning. The growth of various interactions between educational institutions and their host communities has to do with lifelong learning. Everyone should be concerned about creating a learning environment where education is valued for both teachers and students. The professional development of

individuals who assist in delivering education at all levels must be part of this. Teachers should have opportunities to contribute at the individual teacher level through systems and authorities. It means that in order to make teachers competent in their teaching tasks, the authorities and the system in a particular organization should allow them the opportunity to grow professionally, even on an individual basis.

Professional development is defined by the OECD as the activities that increase a teacher's knowledge, skills, expertise, and other desirable teacher attributes (OECD, 2009). It is a protracted procedure that entails the methodical provision of opportunities for professional growth and development aimed at enhancing teacher competency (Villegas-Reimer, 2003). It entails analyzing instruction critically, participating in seminars, professional gatherings, mentoring, and reflection sessions, sharing ideas with other teachers, reading publications, and getting relevant job experience (OECD, 2009; Villegas-Reimer, 2003).

Additionally, Day (1999) views professional development as an amalgam of all natural learning experiences and conscious and planned activities, offers a broader understanding of the nature of the professional learning process. This wide definition emphasizes the deliberate nature of the learning process and highlights the necessity for participants to recognize and understand "natural learning" experiences as a component of the learning process. When learning occurs during the school day, there are several informal chances, such as casual conversations with a colleague in the staffroom, trying out various teaching methods and occasionally making mistakes, or the chance for a colleague to observe effective practice.

This makes it clear that professional development is a process rather than a one-time, universal event. Rather, it is an ongoing process of professional self-disclosure, reflection, and growth that produces the best results when continued over time in communities of practice and when concentrated on embedded job responsibilities.

Furthermore, it is possible to add that knowledge gained at a given time is not enough for teachers to be competent in their teaching. Hence, PD for teachers should be continuous which allows them to be lifelong learners because the process of teaching is always changing. i.e., the methods we use, the students' behavior, classroom management techniques and assessment mechanisms. Hence, to go with these changes and be effective in their teaching task, teachers should be involved in continuous learning process of PD which is mandatory in the changing and dynamic world of the 21st century.

According to the literature, which supports the participants' remarks, countries must adapt in order to maintain teachers' current abilities because the world is changing at an alarming rate. PD programs for teachers are regarded as having a key role since they allow educators the chance to learn and improve their jobs. Priority is given to learning how to learn and having the capacity to learn for life (Lowden, 2005).

In relation to the importance of teachers' participation on PD, it is possible to say that teachers' continuing professional development has become one of the most common central concerns in educational studies over the past several decades. As a result, ongoing research conducted in many countries has shown that PD activities within and beyond the school day affect teachers positively (McLaughlin & Talbert, 2006). Hirsh (2001) has consistently found that the PD of teachers is the best way to affect their quality of teaching. Similarly, Birman et

al. (2000) have shown that PD activities play a key role in teacher preparation and improvement. Borko (2004) further supported this position by asserting, "teachers' PD is essential to improve our schools (p.3). From these writers' suggestions, it is possible to say that PD plays a paramount role in improving teachers' professional capacity and developing their teaching skills. In general, it helps them to update and improve their teaching practice with the existing change of the education process and teaching.

Moreover, Benjamin (2019) explained that modern society demands high quality teaching and learning from teachers. Teachers have to possess a great deal of knowledge and skills with regard to both teaching and assessment practices in order to meet those demands and standards of quality education. There are a variety of pedagogical approaches, including group work and brainstorming, collaborative and co-operative work, and team-based problem solving; these educational strategies are often driven by an emphasis on providing students with the skills and attributes to become self-directed and highly autonomous lifelong learners (Ingersoll, 2003).

Teachers want to solve problem with their colleagues and learn things that are applicable in to their classroom practices. "Through these interactive situations, adults were able to reflect, grow and adapt throughout their teaching careers." (Trotter, 2006, p.12). The experiential knowledge and insight that comes from teachers of all experience levels can prove to be exceptionally beneficial and educational for TPD. Hence, it is possible to conclude that teachers have different conception on PD in the study area.

Current Practice of Professional Development

Teachers' practice or engagement in PD activities is very important to improve their professional growth and quality of education. As it is well known, PD is essential for teachers' professional growth and improving their classroom teaching. As a result, they are advised to practice it in their usual teaching task. By creating a link between the PD and their classroom practice, teachers were able to grow in their knowledge, understanding, and classroom practice over time.

The findings of the study showed that the practice of PD at the college was found to be low. The participants of the study suggested that they are dominantly focusing on traditional methods of teaching like lecturing. Power point presentation is the most widely used way of presenting a lesson as it is pointed out by most of the respondents. In addition, they suggested that their actual practice of PD is not as expected because they lack the commitment and the ability to identify gaps observed in their classroom. Such problem of identifying gaps and poor planning for applying the PD activities lead teachers to adhere to traditional methods of teaching and poor preparation for teaching.

The classroom observation was also supportive of such activities in that most teachers were using lecture method of teaching focusing on course completion rather than using different teaching methods. Frequent use of lecture method could not allow students participation. Such activities of teachers in the classroom are contradictory to the idea of Benjamin (2019) who explained that PD is important to the growth and development of the contemporary educator. The goal of PD for educators is to go beyond maintenance and to create sustainability and professional longevity.

In conclusion it is possible to say that the practice of teachers on PD activities is low even some do not have commitment in the training programs provided in the college on different professional meetings. The researcher observed is that in any academic meeting prepared for teachers by the college, there is poor culture of professional dialogue among teachers which was one of the ways for the PD of teachers by developing two dimensions of learning for teachers-reflection and action which are helpful in making teachers to be reflective and action oriented.

In reality, however, it is known that teachers' practice or engagement in PD activities is very important to improve their profession and quality of education. PD is essential for teachers and they needed to practice it in their regular teaching task. By linking PD with their classroom practice, teachers would be able to advance their knowledge and classroom practice over time. In this situation, it is reasonable to assert that academic staff members who take part in PD activities will be better equipped to complete their responsibilities successfully, have information that is current and relevant to their field, and respond to inquiries about it. Therefore, it would be crucial for instructors to regularly participate in PD activities if they want to function effectively as teachers. By preparing themselves to adapt to the various changes in this dynamic and changing environment of education in general and teaching in particular, they will be able to be effective teachers while also being continual lifelong learners.

Conclusions and Implications

This study examined the perceptions and practices of professional development among academic staff at the College of Education, University of Gondar. The respondents generally recognize professional development as a vital and ongoing learning process that enhances their professional, academic, and technical skills. However, some participants view it as a short-term activity that is insufficiently supported and motivated by management bodies. Moreover, the coordination and budgeting for teacher professional development at various levels—department, college, university, and the Ministry of Education— were found to be notably inadequate.

The findings also reveal that some academic members hold misconceptions about professional development, perceiving it as an obligatory burden imposed by higher authorities. This perception has contributed to negative attitudes toward activities such as workshops, meetings, and academic dialogues. Consequently, some teachers exhibit reluctance to engage in professional development initiatives. This reluctance has been corroborated by the researchers' informal observations within the institution, as well as during several meetings and training sessions conducted for faculty. Additionally, it appears that even experienced faculty holds

The research findings have implications for theory, policy and further research. As far as theory is concerned, this study is a significant contribution to the understanding of teacher professional development in the country and college context where PD as lifelong learning takes over the short-term planned form of training. It will help practitioners to have clear understanding on professional development as lifelong learning process and the role of academic dialogue in sharing knowledge and experience among teachers through feedback.

As for policy, the research findings tend to suggest that continuous and sustained program for teacher PD largely depend on support that the teacher/practitioner receives at different levels. Therefore, while it is recognized that teacher PD requires the support of many stakeholders at various levels, there is a need for the different bodies to play their share. Hence, The Ministry of Education needs to redesign and develop PD training programs which are helpful to avoid if not to reduce 'the one-size-fits-all' and the top-down kind of PD program.

The deans, education quality assurance and audit officers and department heads are also expected to plan and adjust different programs for academic dialogue among teachers on a department or college levels. Teachers are also expected to actively participate in academic dialogues as well as meetings in a responsible manner. Finally, in relation to further research, studies similar to the present study need to be carried out in other colleges and universities.

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Examining the practice of culturally responsive pedagogy in upper primary school mathematics: Perceptions and competencies of teachers in North Wollo zone, Ethiopia

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Abstract

This study aimed to examine the status of culturally responsive pedagogy (CRP) practices among upper primary school mathematics teachers in North Wollo Zone, Ethiopia. To achieve this purpose, the researchers employed a mixed-methods convergent research design. The participants included teachers, students, principals, and department heads. Data were collected from these participants through questionnaires and interviews and analyzed using both quantitative and qualitative techniques. Results indicated that teachers employed CRP strategies in mathematics instruction on an occasional basis. Furthermore, the results revealed significant correlations between the independent variables—school location, teaching experience, CRP perception, and CRP competency—and the practice of CRP. Notably, teaching experience and CRP competencies were found to positively and significantly predict the dependent variable of CRP practices in mathematics education. These findings underscore the need for teachers to gain teaching experience, enhance their cultural competence, and exchange insights on implementing responsive teaching methods that integrate cultural elements and real-life contexts.

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Introduction

Ethiopia's education system, akin to those in other countries, has been largely shaped by a traditional pedagogy and a curriculum primarily influenced by European cultural perspectives. A curriculum revision undertaken between 2003 and 2005 highlighted significant shortcomings, notably a lack of emphasis on value development and insufficient relevance to the lives and needs of students (MoE, 2010). In a related study, Amare (2009) identified that issues of relevance originating from previous regimes continue to impact the current educational landscape. The Ethiopian Education Development Roadmap report (MoE,

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2018) indicates that initiatives aimed at incorporating indigenous knowledge into the existing curriculum are still in their infancy, with minimal emphasis placed on this integration within the general education framework, including subjects such as mathematics. Furthermore, an analysis of basic education revealed that the academic performance of upper primary school students remains unsatisfactory (JICA, 2012).

From 2000 to 2012, mathematics emerged as the subject that experienced the most significant decline in student academic achievement, as evidenced by national learning assessment results for eighth grade. An analysis of national data from five national learning assessments conducted between 2000 and 2016 indicated that mathematics achievement among students in the Amhara region fell below the national standard (NEAEA, 2016). Furthermore, a detailed examination of regional mathematics exam scores for eighth-grade students in the North Wollo Zone, Amhara region, over the preceding five years (2013–2017) revealed that 58.6% of these students scored below the national benchmark (North Wollo Education Office, 2018).

Furthermore, in addition to the low achievement scores observed among students, significant disparities in mathematical performance between male and female students have been identified. For instance, a survey comparing the mathematical achievement of boys and girls at the upper primary education level in Addis Ababa revealed that female students' achievement was markedly lower than that of their male counterparts (Tilaye, 2004). On the other hand, local research examining the assessment of mathematics teaching and learning processes in secondary schools within the Benishangul-Gumuz and Amhara regions highlighted the ineffectiveness of traditional instructional methods in fostering a deep understanding of mathematical concepts among students (Asnakew, 2017). Collectively, these findings underscore the persistent issues of low academic performance and achievement gaps in school mathematics, indicating a pressing need for further investigation in these educational contexts.

The challenges facing mathematics education in Ethiopia can be attributed to several factors. The Ministry of Education has highlighted that traditional pedagogical approaches, which have dominated the field for an extended period, may significantly contribute to students' academic challenges (MoE, 2018). Tate (1995) characterizes traditional mathematics instruction as a form of “foreign pedagogy,” arguing that it undermines student motivation and, consequently, academic performance. This instructional model is based on the thinking, experiences, and values of foreign cultures, which do not resonate with the local students' contexts.

Research suggests that teachers often fail to establish connections between mathematical concepts and their students' preexisting mental frameworks, prior knowledge, and cultural backgrounds, which can contribute to students' academic struggles (Irvine, 1995). Similarly, Gutiérrez (2000) posits that students' inadequacies in mathematics are not indicative of their intellectual limitations but rather stem from a lack of alignment between their home and community cultures and the classroom environment, curriculum, and educational practices.

Thus, teachers' inability to provide a mathematics curriculum and instructional methods that reflect students’ experiences, cultural backgrounds, and traditions poses a significant barrier to achieving equity in mathematics education (Tate, 1995). If teachers

genuinely aspire to foster improved and equitable mathematics achievement, it is imperative that mathematics instruction begins to reflect pedagogies that meaningfully integrate cultural considerations into the classroom.

Nasir (2016) asserts that, despite the traditional perception of mathematics as a discipline detached from culture, it is, in fact, a rich repository of cultural knowledge and practices. Therefore, it is imperative that mathematics education should be designed and implemented within socio-cultural contexts, incorporating authentic tasks and activities that actively engage learners (Bishop, 2008; Ascher, 2002). Building on this premise, researchers such as Aguirre et al. (2017), Gutstein (2016), Bonner (2014), Gutierrez (2013), and Gay (2010) have proposed that culturally responsive pedagogical approaches in mathematics could substantially benefit learners identified as low performers, potentially mitigating the challenges they face.

Culturally responsive teaching is predicated on the premise that when educators contextualize content within the lived experiences and frames of reference of their students, academic knowledge and skills become more engaging, meaningful, and comprehensible (Gay, 2009). In this context, teachers' instructional practices can render standards-based content and curricula more accessible to students, facilitating understanding by integrating relatable aspects of students' daily lives into the curriculum (Rajagopal, 2011). Tate (1995) emphasizes that culturally responsive pedagogy in mathematics involves posing open-ended questions and representing real-world situations in various formats—verbal, numerical, or graphical. When effectively implemented, culturally responsive pedagogy not only enhances students' access to learning opportunities but also positively influences their academic achievement (Gay, 2002; Villegas & Lucas, 2002). In light of this study, the persistent underperformance of students in mathematics underscores the necessity of examining teachers' adoption of culturally responsive practices, as research demonstrates that these approaches can effectively mitigate disparities in mathematics achievement.

Recognizing the significance of culture-based pedagogy, Ethiopia has undertaken comprehensive reforms in general education at both institutional and instructional levels, aiming to render schooling more pertinent to the cultural backgrounds and experiences of its students (MoE, 1994). The revised curriculum for general education was strategically designed to prioritize science and mathematics while emphasizing the acquisition of relevant knowledge (MoE, 2002). The pedagogical initiatives and practices reflective of the cultural contexts of learners were incorporated into various educational strategies, including the 2010 National Curriculum Framework and subject-specific curriculum guides for mathematics (MoE, 2008).

Consequently, recent advancements in mathematics education aspire to transition teacher pedagogy from traditional didactic methods to approaches that connect mathematics with real-world scenarios and cultural contexts, thereby fostering students' critical thinking and problem-solving abilities (MoE, 1994). The 1994 education and training policy mandated that teachers emphasize the necessity of relevance and adapt their instruction to align with the diverse profiles of their students (MoE, 2010).

Furthermore, the country's education and training policy advocates for a constructive, problem-solving, and student-centered pedagogical approach, alongside the incorporation of indigenous knowledge. The integration of indigenous knowledge and cultural artifacts into

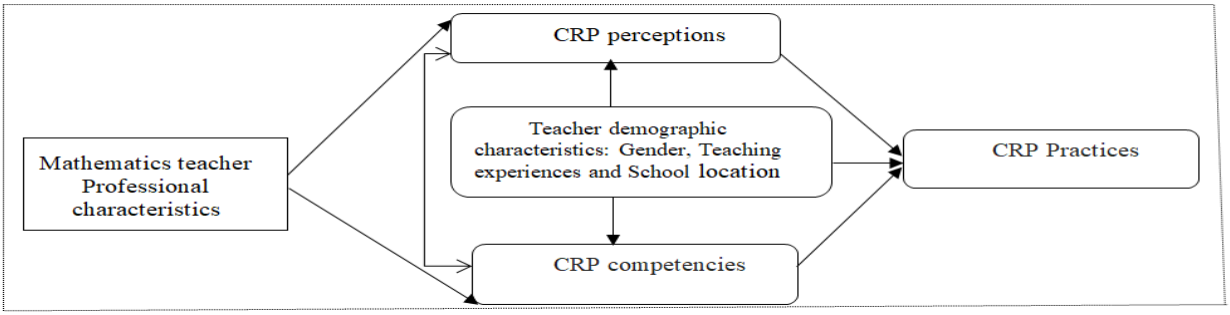
the school curriculum and instructional practices is underscored as a vital strategy in policy documents and implementation frameworks.

Despite considerable efforts, the existing literature on the implementation of CRP by mathematics teachers within Ethiopian upper primary schools—particularly in the study area—remains limited. Particularly, students' academic performance has been unsatisfactory, largely due to instructional methods that do not align with learners' prior experiences (MoE, 2018; Asnakew, 2017; Weldeana, 2016). Furthermore, CRP has not received adequate attention in the Ethiopian educational landscape, and the available research has often failed to address the specific CRP practices in mathematics education. For instance, Abrha et al. (2019) investigated gender-responsive pedagogy in science education, Tilaye (2004) focused on girls' achievement in upper primary school mathematics, and Weldeana (2016) explored ethnomathematics in Ethiopia. Likewise, Girma (2019) studied "the practice of culturally responsive pedagogy as a nexus to enhancing female students' academic performance in the college of teacher education." The findings of these studies generally do not center on teachers' implementation of CRP in mathematics. Consequently, there is a pressing need to explore the practice of CRP within the context of upper primary school mathematics, as well as to examine the extent to which teachers' perceptions of CRP, their competencies in CRP, and specific demographic characteristics correlate with their implementation of CRP in mathematics education.

Hence, this study aimed to explore mathematics teachers' practice of CRP in the upper primary school setting. It specifically examined how the demographic characteristics of math teachers—such as gender, teaching experience, and school location—as well as their professional attributes—such as CRP perceptions and CRP competencies—influenced their CRP implementation in mathematics. To achieve this purpose, the researchers formulated the following basic research questions: (1) how do upper primary school teachers practice CRP in mathematics, and to what extent is CRP practiced among these teachers' CRP? (2) Is there a significant relationship between upper primary mathematics teachers' demographic variables—such as school location, teaching experience, and gender—and their perceptions of CRP and competencies in relation to their practices of CRP? (3) To what extent do the demographic characteristics, CRP perceptions, and competencies of mathematics teachers serve as predictors of their CRP practices in mathematics education? In line with the aforementioned research purposes and basic research questions, the researchers employed the following conceptual framework to guide the study (see Figure 1).

Figure 1

Conceptual Framework for the Study



Methods

Research Approach and Design

To achieve the purposes of this study, the researchers employed a mixed-methods research approach. Specifically, they adopted a convergent parallel design, which enabled a comprehensive examination of the research problem by integrating both quantitative and qualitative data (Creswell, 2014). This methodological choice facilitated simultaneous data collection through the use of both questionnaires and interviews, thereby enhancing the richness of the analysis and the robustness of the overall findings (Creswell, 2014).

Sampling Techniques

To collect data for this study, the researchers targeted mathematics teachers, department heads, and school principals within the North Wollo Zone as key informants. A total of 609 mathematics teachers employed across 449 government schools within 14 Woredas of the zone were identified as study participants. Among these Woredas, seven were selected for inclusion: Woldia, Kobo Town, Raya Kobo, Gazo, Gubalafto, Habiru, and Angot, which together encompass 239 upper primary schools. From this group, 60 schools were randomly chosen as research sites. The study involved all 250 mathematics teachers (153 males and 97 females) located in these schools, selected through comprehensive sampling due to the manageable number of teachers at each institution. Additionally, six school principals and six department heads from the seven selected districts were purposively included as study participants.

Instruments

The researchers employed both questionnaires and interviews as instruments for data collection. A questionnaire incorporating both closed and open-ended items was specifically designed to evaluate teachers' perceptions, competencies, and the frequency of their implementation of CRP practices. The questionnaire consisted of 153 items on a 5-point Likert scale, divided into three categories: 64 items related to practice, 40 items related to competence, and 49 items related to perception, targeted at upper primary mathematics teachers. To ensure the face, construct, and content validity of the questionnaire, the researchers sought feedback from education professors and colleagues, as well as conducted a pilot test. Following this pilot test, the reliability of the questionnaire was established, yielding a Cronbach's alpha coefficient of 0.93, indicating a high level of internal consistency.

A semi-structured interview was also developed for school principals and heads of mathematics departments in order to gather insights into their personal experiences regarding teachers' competencies and the implementation of CRP in mathematics education. The interview protocol underwent validation through the employment of bracketing and member-checking techniques.

Data Analysis Techniques

The data collected through the questionnaires were analyzed quantitatively using both descriptive and inferential statistics. The statistical analysis was conducted using SPSS software (version 23). Specifically, a one-sample t-test was performed to assess the CRP practices of

mathematics teachers. Additionally, Pearson correlation analysis was utilized to determine the strength and direction of the relationship between independent variables and the CRP practice status of mathematics teachers. Multiple regression analysis was also employed to examine the predictive influence of teachers' demographic and professional characteristics on their CRP implementation in mathematics. Lastly, the qualitative data obtained from interview respondents were analyzed thematically, with narratives developed around key themes related to the practice of CRP in mathematics.

Results

The Status of Upper Primary School Mathematics Teachers' CRP Practice

The findings presented in Table 1 indicate that the expected mean (3.0) was slightly over weighted by the calculated mean value (3.08). This result suggests that most of the mathematics teachers practiced CRP on an occasional basis. The one sample t-test results further revealed that the teachers differ significantly in their practice of CRP in mathematics instructional processes (t (249) =2.237, p = 0.026, Cohen's d=.14, as p < 0.05).

Table 1

One Sample T-test Results on Mathematics Teachers' CRP Practice (Test Value=3)

Variable	Participants categories	N	Mean	SD	t	df	p-value	Cohen'sd
Practice of CRP	Teachers'	250	3.08	.600	2.237	249	.026*	.14

Note. *P<0.05

However, the effect size observed in this study regarding the practice of CRP in mathematics was small (see Table 1), indicating minimal variation between the calculated and expected mean scores. Although the differences in mean scores were statistically significant, the effect size was indeed small. This suggests that teachers infrequently implemented CRP in their mathematics classrooms. As Cohen (1988) indicated, when the difference between two means corresponds to a value of d = .0 to .19 in standard deviations, the effect is considered "trivial," even if statistically significant.

To triangulate the data, the researchers conducted qualitative interviews with school principals and of mathematics department heads. The results indicate that teachers in the observed setting endeavored to implement CRP in their classrooms. Specifically, the department heads noted that some teachers were motivated to consider students' background experiences into their teaching and learning activities by utilizing locally produced and readily available instructional materials. For example, one informant noted that, to help students conceptualize a circle and its components, teachers employed SEFIED, a traditional material made from grass that is typically used to hold bread.

Furthermore, the teacher respondents shared their experiences as mathematics educators, illustrating how they introduced the concepts of circles and the methods of drawing them by

relating these topics to local house construction processes. Similarly, some respondents described how they taught the concept of fractions through the activity of sharing bread during the celebration of students' birthdays. This approach demonstrates the efforts of classroom teachers to integrate mathematical content with the lived experiences of their students.

The Relationship between Teachers' Demographic Variables, CRP Perceptions, Competencies, and Their Practice of CRP in Mathematics

This study has analyzed the correlation between various demographic or professional characteristics within the participant mathematics and their self-reported implementation of CRP strategies in mathematics instruction. To this end, a Pearson Product-Moment correlation analysis was conducted to explore the relationships between several factors: the gender of mathematics teachers, the location of their schools, their years of teaching experience, the mean perceived importance of CRP, and the mean level of CRP competencies. The results were then compared with the mean scores of self-reported CRP practices in mathematics (see Table 2).

Table 2

Pearson Correlation Coefficients in Teachers' Demographic and Professional Characteristics

Variables	Gender	School location	Teaching experience	CRP Perceptions	CRP Competence	Practice of CRP
Gender	1					
School location	-129*	1				
Teaching experience	-.087	.387**	1			
CRP Perceptions	.126*	.103	.296**	1		
CRP Competence	.072	.135*	.575**	.576**	1	
Practice of CRP	.055	.207**	.734**	.472**	.801**	1

Note. * Significant at the 0.05 level (2-tailed), ** Significant at the 0.01 level (2-tailed).
Key: gender(Male=1, female=2), School location (rural=1, urban=2); Teaching experience(0-5 years, 5-10, years, 10-15 years, and15 or above years)

As presented in Table 2, a significant positive correlation was observed between certain demographic characteristics of teachers, including school location ($r = 0.207$, $p < 0.01$) and years of teaching experience ($r = 0.734$, $p < 0.01$), in relation to their practice of CRP strategies. Furthermore, the results of the correlation analysis indicated that mathematics teachers' self-reported practices of CRP exhibited both moderate and strong significant positive correlations with their perceived importance of CRP ($r = 0.472$, $p < 0.01$) and their overall level of perceived CRP competencies ($r = 0.801$, $p < 0.01$), respectively. In contrast, no statistically significant relationship was found between mathematics teachers' self-reported CRP practices and their gender ($r = 0.055$, $p = 0.387$), as this p-value exceeds the threshold of 0.05.

The Predictive Status of Teachers' Demographic Characteristics, CRP Perceptions, and Competencies in Their Practice of CRP in Mathematics

To ascertain the influence of independent variables on the dependent variable—namely, overall self-reported practices of CRP in mathematics—multiple regression analysis was employed (see Table 5). Prior to conducting this analysis, the researchers meticulously

assessed all variables for any violations of statistical assumptions and confirmed that none were present.

Following this validation, the researchers utilized multiple regression to examine the predictive power of mathematics teachers' demographic characteristics (such as school location and teaching experience) and professional attributes (including CRP perception and CRP competence) on their self-reported practices of CRP in school mathematics. The results are presented in Tables 3, 4, and 5.

The summary of the model (see Table 3) encompasses the R, R^2, adjusted R^2, and the standard error of the estimate (SE), which can be used to determine how well a regression model, fits the data. Consequently, the multiple correlation coefficient (R = 0.869) indicates that the prediction power of the demographic and professional characteristics of teachers is strong to predict teachers' self-reported practice of CRP strategies in mathematics instructional activities.

Table 3

Combined Effect of all Variables on Teachers' Self-reported Practices of CRP in Mathematics

Model	Sum of Squares	df	Mean Square	F	Sig.	R	R^2	Adj.R^2	SE	Durbin-Watson
Regression	67.747	4	16.937	188.666	.001[b]	.869[a]	.755	.751	.300	1.656
Residual	21.994	245	.090							
Total	89.741	249								

Note. a. Predictors: (Constant), CRP competency, School location, CRP Perception, Teaching experience;
b. Dependent Variable: CRP Practice

The coefficient of determination (R^2 = 0.755) explained 75.5% of the variability of the dependent variable, CRP practice in school mathematics. The adjusted R^2 value of 0.751 (the "R Square" column) indicates how much of the total variation in the dependent variable (practice of CRP in school mathematics), can be explained by the four independent variables: school location, teaching experience, CRP perception, and CRP competencies. In this case, 75.1% can be explained as strong.

Moreover, the F ratio in Table 3 checked whether the overall regression model was a good fit for the data. So, the results indicated that taken collectively the independent variables significantly predicted the dependent variable as evidenced by the ($F(4,245) = 188.666$, $p < 0.05$), which revealed the regression model was a good fit for the data. This result suggested that at least one of the four independent variables had a significant effect on the dependent variable of teachers' self-reported practice of CRP in mathematics.

Then, the researchers examined the effect size of each independent variable—school location, teaching experience, perceived importance of CRP, and perceived level of CRP competencies—predict teachers' overall self-reported practice of CRP strategies. The results of the preliminary multiple regression models demonstrated that school location and teacher perceived importance of CRP strategies were not statistically significant predictors of teachers self-reported CRP practice scores, as evidenced by ($\beta = -.034$, $t = -0.991$, $p = .373$, $P > .05$) and ($\beta = .039$, $t = 1.005$, $p = .316$, $P > .05$), respectively (refer Table 4).

Table 4

Regression Analysis Summary for teacher Characteristics Predicting Practice of CRP Strategies in Mathematics Instructional Activities

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	.687	.142		4.833	.001		
School location	-.042	.043	-.034	-.991	.373	.837	.195
Teaching experience	.258	.025	.426	10.155	.001	.570	.756
CRP perception	.043	.042	.039	1.005	.316	.664	.505
CRP Competence	.521	.044	.539	11.812	.001	.481	.078

Note. Dependent variable: Practice of CRP; R^2 = .755(Adjusted R^2 = .751) (N = 250, p < .05)

Two of the independent variables had a significant and positive effect on teachers' self-reported practice of CRP strategies (refer Table 4). Specifically, teachers' years of experience was statistically significant in predicting teachers' self-reported practice of CRP scores as evidenced by (β =.426, t = 10.155, p<.001). This result revealed that the more experienced the respondents' had, the more they implemented CRP.

To triangulate the quantitative findings, the researchers conducted a semi-structured interview with heads of the mathematics department and the respective school principals. To do so, the researchers asked the respondents, '*How do you evaluate the CRP practice of mathematics teachers in relation to their teaching experience?* Considering this question, the participants responded that teachers who have more years of teaching experience reflected the practice of CRP in their classroom instructional activities more than those who had less experience. Specifically, the mathematics department head (HMD1) reported, '… as I have seen during teachers appraisal observation schedule, some mathematics teachers (who taught for more years) used locally made teaching aids, considered the background experiences of the students before conducting actual lessons, and also tried to connect mathematics content with local contexts' (HMD1, 22 May 2022). The principal of the school (SCP1) reaffirmed this.

The data presented reveals that teachers who had more years of teaching experience showed greater consideration of CRP practices in their instructional activities. Therefore, it is possible to say that there is consistency between the quantitative and qualitative findings on the issue of teachers with higher teaching experiences influencing their CRP practices positively.

In addition, as seen in Table 4, the teachers' perception of their CRP competencies was statistically significant in predicting their self-reported practice of CRP, as supported by (β =.539, t = 11.812, p<.001). The results indicate that math teachers who perceived themselves as competent in aspects of CRP could implement such pedagogy in their actual mathematics instructional processes.

Table 5

Final Regression Model for Predicting Self-reported Practice of CRP Strategies in Mathematics

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. E.	Beta			Tolerance	VIF
Constant	.729	.100		7.286	.000		
Teaching experience	.247	.023	.408	10.551	.000	.670	1.494
CRP Competence	.548	.037	.567	14.663	.000	.670	1.494

Note. R=.868, R^2 = .753 (Adjusted R^2 = .751), (N = 250, p < .05); Std. E. =standard error

As displayed in Table 5, the final multiple linear regression was performed based on the two independent variables (demographic characteristics) to examine their level of significance and effect size for each. These independent variables significantly predicted the dependent variable- practice of CRP in mathematics (F (2,247) = 376.556, p=.000, p < 0.05, R^2 = 0.753). The result reveals that when mathematics teachers' CRP strategies were regressed on their years of teaching experience and perceived CRP competence, 75.3% (R^2 = .753) of the total variance in math teachers' self-reported practice of CRP in mathematics was accounted for by their years of teaching experience and level of perceived CRP competencies. The R^2 value, which was higher than three-fourths (75.3 percent) of the 100% coefficient of determination, showed a strong effect of the combination of the two variables that accounted for the total variance in teachers' practice of CRP in mathematics.

Of the two independent variables, level of teachers' perceived CRP competence had a higher effect (beta =.548, p=.000), and teachers' years of teaching experience had also a statistically significant contribution (beta =.408, p=.000) on predicting their overall self-reported practice of CRP scores (see Table 5). This means, the teachers' CRP competencies and years of teaching experience contributed significantly and positively to their practicing status of CRP strategies in school mathematics.

Discussion

This study examined the correlation and predictive significance of demographic and professional characteristics of teachers in relation to their implementation of CRP in mathematics education. The results were thoroughly analyzed and revealed findings that both support and contradict previously published research projects. To present these findings comprehensively, the researchers organized the discussion thematically as follows.

The Status of Upper Primary School Mathematics Teachers' CRP Practice

The results of this study indicated that teachers in the research area occasionally implemented CRP in mathematics, with a mean score of 3.08 (SD = 0.600). Furthermore, qualitative data revealed that some teachers integrated local building practices into their instruction on the concepts of circles and their representations. Additionally, the teaching of fractions was contextualized through the cultural practice of sharing bread during children's birth date ceremonies.

In this context, Morrison et al. (2008) argued that students enhance their learning by building upon their prior experiences and knowledge, thereby linking their background experiences to the current content and activities within the classroom. Such connections can significantly improve students' academic achievement through meaningful instructional practices. However, the findings of the current study indicate that mathematics teachers occasionally consider culturally responsive pedagogy practices in their classrooms. A one-sample t-test revealed a small but significant effect ($t(249) = 2.237$, $p = .026$, Cohen's $d = .14$). This observation aligns with existing literature. For example, (Umutlu & Kim, 2020) reported that while many teachers acknowledge the need to address the challenges faced by their students and recognize that culturally responsive teaching could effectively meet these challenges, they note that such approaches are seldom implemented in a meaningful manner.

When considering the different factors that influence student achievement in mathematics, the chosen pedagogy of teachers appears to be a leading factor. In their studies, Aronson and Laughter (2016) reported that to narrow down the contextual problems faced in the classroom, teaching and learning mathematics in schools should be culturally relevant and responsive to students. When teachers contextualize mathematics based on student interests, experiences, and communities and then scaffold instruction, positive inclusive learning processes can be created, and the subject can be used as a tool to critique social order (Klinger & Gonzalez, 2009; Martin et al., 2010). These pedagogical approaches set goals for mathematics education that include helping students achieve high standards as well as using mathematics to shape their identities and improve their living situations (Gutstein, 2006).

The Relationship between Mathematics Teachers' Demographic Variables, CRP Perceptions, Competencies and Their Practices of CRP

The CRP competence, teaching experience, CRP perception, and school location were positively and significantly correlated with practices of CRP in mathematics. Specifically, teachers' level of perceived CRP competencies correlated with their self-reported practice of CRP as evidenced by ($r = .801$, $p < .01$). The results suggest that if mathematics teachers are competent in aspects of CRP, they will be able to demonstrate the practices in mathematics classrooms. Multiple research studies confirm this finding. That is, as mathematics teachers feel competent, specifically in their ability to implement culturally responsive teaching, this contributes to their practice of CRP strategies in upper primary school mathematics contexts (Edwards, 2014; Gay, 2010; Ladson-Billings, 2009).

Similarly, with regard to teaching experience, mathematics teachers who have more years of teaching experience considered CRP practices in their classroom instructional activities more than those who have less experience ($r = .734$, $p < 0.01$). Similarly, Lucas and Villegas (2013) reported that to teach various learners professionally, teachers require many more years to be competent because CRP involves extensive knowledge, skills, and orientations. This means that teacher-teaching experience is one of the numerous foundations from which they derive their knowledge.

The result of the correlation analyses also revealed a positive relationship between scores on mathematics teachers school location variables and their self-reported practice of CRP ($r = .207$, $p < 0.01$). Based on established benchmarks, this effect size is considered small and medium. As a result, a teacher's location seems to slightly influence whether a

teacher implements CRP in mathematics. Thus, as a demographic variable, the school location positively impacts the practice of CRP in mathematics in favor of urban school teachers. Likewise, Cogan et al. (2001) findings suggested that rural schools may be more likely than other schools to practice a conservative form of mathematics education. This result contradicts the Silva (2017) study, which revealed that none of the teacher demographics (e.g., teaching experience, location of the current teaching position) seem to significantly impact CRT practices. The reason for this significant association might be that in urban schools, more experienced teachers have exposure to and practical experience in every aspect of education and cultural contexts that help them become knowledgeable, skilled, and competent.

However, there was no statistically significant relationship between mathematics teachers' self-reported practice of CRP scores and their gender variable at ($r = .055$, $p = .387$, $p > .05$). This implies that being a male or female teacher has no effect on the practice of CRP strategies in mathematics instructional activities. This result also agreed with the previous findings. For example, Heitner and Jennings (2016) reported that there are no significant differences in CRT knowledge and practices among teachers in terms of gender.

Teachers' Demographic and professional characteristics predictive status of CRP Practice in Mathematics

The independent variables such as teaching experience and perceived level of CRP competencies among math teachers predicated positively and significantly their self-reported practice of CRP. However, school location and perceived importance of CRP did not predict significantly their practice of CRP. Thus, the positive association between years of experience and self-reported practice of CRP scores suggested that an increase in teachers' years of teaching experience in mathematics is associated with an increase in their self-reported practice of CRP scores.

This study's findings agreed with prior researchers outputs. For example, Tschannen-Moran, and Woolfolk (2001) reported that as teachers become more experienced, their perceived competence increases, leading to improved pedagogical practices, student-teacher relationships, and student outcomes. Managing the mathematics classroom environment in a responsive way is vital for teacher practice. Put in differently, culturally responsive classroom management was rarely implemented in meaningful ways by less experienced teachers. This is because gaining the opportunity to teach diverse students in different localities over a long period of time helps math teachers develop cultural knowledge, skills, and experiences and bring them into the classroom to use them in instructional processes.

Concerning the level of perceived CRP competencies of math teachers, Bills and Hunter (2015); Rockoff (2004) noted that the success of applications related to culturally responsive pedagogical practices is directly proportional to the knowledge, skills, experience, and competencies of teachers. Likewise, Goddard and Skrla (2006) state that teachers' sense of culturally responsive teaching competencies exert a significant influence on student achievement by promoting teaching that enhances learning.

Conclusions and Recommendations

Based on the data analysis and discussion, it is possible to conclude that upper primary school mathematics teachers practice culturally responsive pedagogy at a moderate level. Teachers who do not implement this pedagogy may possess only a superficial understanding of how CRP can be integrated into mathematics instruction, which may result in a lack of confidence in their ability to apply it effectively. Additionally, novice mathematics teachers are less likely to have facilitated culturally responsive pedagogical practices in their classrooms compared to their more experienced counterparts.

Furthermore, the results revealed that some demographic characteristics of teacher — specifically, school location, years of teaching experience, and professional attributes (including culturally relevant pedagogy competencies and perceptions)—exhibit significant positive correlations with the practice of culturally relevant pedagogy in mathematics. Notably, among these four predictor variables, the perceived levels of CRP competencies and the extent of teaching experience were the only significant predictors of CRP implementation in mathematics instruction. This suggests that mathematics teachers should prioritize the integration of CRP to foster more relevant and effective learning environments for their students.

Based on the findings of this study, the researchers suggest the following recommendations. First, to facilitate effective mathematics education, it is essential for teachers to develop cultural competencies and to consistently implement culturally relevant teaching methods that incorporate local culture and real-life contexts. Accordingly, the Amhara Regional Education Bureau, along with the Zonal Education Department and Woreda Education Offices, should provide professional development training for mathematics teachers on the integration of culturally responsive pedagogical strategies into their instructional practices.

Secondly, it is crucial for teachers to understand and promote culture-based instructional practices in mathematics classrooms; as such practices have been shown to positively impact student performance. Recognizing this impact, school principals should implement strategies aimed at enhancing the awareness and competencies of mathematics teachers, thereby enabling them to effectively integrate cultural contexts into the school's mathematics curriculum and teaching methodologies.

Third, the findings of this study indicate that the teaching experience of teachers positively influences the implementation of culturally relevant pedagogy in mathematics education. Therefore, it is imperative for schools to develop strategies that facilitate collaboration between more experienced and less experienced teachers, particularly through the establishment of lesson study programs. Such programs provide a constructive platform for teachers to practice, exchange ideas, and seek assistance in a supportive, non-judgmental, and professional environment.

Limitation of the Study

This study faced several significant challenges that imped its progress. Notably, the COVID-19 pandemic posed a major obstacle, severely restricting the mobility of researchers. Furthermore, the ongoing civil war in Ethiopia, particularly in the northern regions, coupled with recurrent states of emergency, not only disrupted internet access but also physically obstructed direct communication among researchers.

Ethical Approval

To meet the objectives of this study, the materials utilized in the research were carefully identified, and participants were ensured anonymity throughout the study to enhance their sense of confidentiality.

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The concepts of 'educational process' and 'educated person' from the philosophical perspective of Richard Stanley Peters: Critical review

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Abstract

This article aimed to examine the two concepts of the educational process and educated person from the philosophical perspective of Richard S. Peters, a prominent philosopher of education. In light of this, one of his influential works, "What is an Educational Process?", was carefully reviewed. Some comments on the overall relevance of Peters' positions on the two concepts are also included. The review provides valuable insights into these concepts, which are profoundly important for the education field. Finally, concluding remarks and implications of the author's perspectives on contemporary educational systems are highlighted.

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Introduction

Philosophers have long grappled with the complex nature of education. Despite their efforts, defining education, clarifying its processes, and, most importantly, identifying the behaviors that characterize an educated person continue to pose a significant challenge within the education community (Rury, 2002; White, 2010). Richard Stanley Peters (1919−2011), a renowned British philosopher of education, is recognized for offering valuable insights that help address this enduring educational quandary.

Peters is widely recognized for his contribution to the advancement of educational thought and the stimulation of critical discussions regarding the purpose, meaning, and methods of education. Through his broadly acclaimed scholarly works, including *Education as Initiation* (1965), *Education and the Educationist* (1973), *Moral Development and Moral Education* (1981), and *Reason and Education* (1987), Peters left a lasting impact on the philosophy of education. Throughout his career, Peters courageously challenged reductionist views on education and offered a deeply nuanced perspective on the complex nature of educational processes.

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The present review focuses on one of the philosophical works of Peters, "What is an Educational Process?" This work is part of a popular book titled *The Concept of Education*, which was edited by Peters himself (Peters, 2010). Originally published in 1967, the book was republished as an eBook in 2010.

This review is organized into three sections. While the first section attempts to critically review Peters' philosophical work, the second section endeavors to comment on his perspectives. Finally, the third section presents some concluding remarks and implications of Peters's perspectives for modern education systems.

Critical Review

Peters' "What is an Educational Process?" is one of the scholarly works that attempt to clarify the concepts of the educational process and the educated person. According to Peters, for a comprehensive understanding of education and the education process, the concept of education needs to be viewed in line with the *task-achievement* analysis. The central thesis of this analysis is that education should ultimately result in some sort of achievement. To achieve something through education, Peters posits that some tasks should be performed through an appropriate educational process. This position of the philosopher implies that it is through an in-depth understanding of three central concepts, i.e., achievements, tasks, and educational processes, that one can be insightful about the essence and processes of education.

The notion of *achievement, a*ccording to Peters, is a critical concept in the quest for a comprehensive understanding of education. In line with this, the author contends that there is no education unless the learner achieves something in the end. For him, education is an achievement-oriented concept so that a person who passes through an educational process should achieve something from that process. It is after satisfying this criterion that an individual could be considered an educated person.

In the meantime, Peters argues that 'achievement' is a multi-dimensional concept. *Knowhow (skill),* for example, could be considered an achievement provided that the person is able to demonstrate a thorough understanding of the principles behind the know-how attained. According to Peters, the mere possession of a particular skill does not necessarily guarantee that an individual has received an education. Instead, to be considered an educated person, the individual should understand the underlying principles of the skill that s/he has mastered.

This implies that *knowledge* is another important dimension of educational achievement. However, in Peters' analysis, knowledge acquired by any person should be relevant to life outside the classroom. In other words, the knowledge students acquire in an educational process should enable them not only to understand the society they are living in but also to make meaningful engagements aimed at transforming life in society. Peters further contends that the knowledge that learners acquire through education should not be inert. Instead, it must result in a kind of commitment from the learner's side.

In Peters' analysis, development in *attitudes* is another important dimension of educational achievement. For him, education should help the learner develop a positive attitude toward the knowledge s/he has already acquired, suggesting that any educational

achievement should embrace a moral aspect. In other words, students should regard the new achievement as worthwhile both for themselves and their society.

Peters also argued that it is only by performing some kind of *tasks* that a learner can be successful in educational achievement. For this purpose, both students and teachers need to perform different educational tasks. Being conscious, attentive, and active in the task to be performed is among the responsibilities expected of every student. On the other hand, *extrinsic aids* such as praising, rewarding, warmth, smiling, stimulating, facilitating, and conditioning should be practiced by the teacher. These teacher-related tasks should aim at helping students *pick things up*. In Peters' analysis, picking things up simply refers to developing positive attitudes or desirable behaviors through different teacher-related tasks.

Although tasks are crucial to help students pick up some desirable behaviors, the author posits that they may not always result in total achievements. Achievements such as those mentioned above can be attained only through a proper educational process. In this context, Peters suggested the following five educational processes: (1) training, (2) instruction and learning by experience, (3) teaching and learning of principles, (4) the transmission of critical thought, and (5) conversation and 'the whole man'.

In Peters' philosophy, *training* is an educational process that is always tailored toward the learning of skills. In this process, imitation and practice are given much credence, as skills cannot be developed by mere reading and instruction. *Instruction and learning by experience* is another educational process that emphasizes the provision of different relevant experiences, particularly first-hand experiences, to students. In the *teaching and learning of principles*, Peters underscored the need for an in-depth understanding of the principles behind the skills and knowledge that students acquired. For this purpose, teachers should encourage students to reflect on the knowledge they have learned and the skills they have mastered.

In the fourth educational process, the *transmission of critical thought*, Peters advocated for the inclusion of critical reflection in the instructional process. For him, critical reflection is a fundamental aspect of personal growth and intellectual development, thus, in any educational process, students should be encouraged to examine their own beliefs and assumptions through critical inquiry. Finally, in the fifth educational process, *conversation and the whole man*, the author stressed the importance of creating learning environments that enable students to see the world from others' viewpoints. In line with this, Peters emphasized the benefits of some informal approaches, such as conversations.

Comments on Peters' Perspectives

Richard S. Peters' philosophical positions on the concepts of the educational process and the educated person have several strengths. One of the strengths is his position on a holistic perspective of education and the educational process. The author stressed the importance of moral development, critical thinking, and personal growth as integral parts of an educational process. This perspective, the reviewer contends, is crucial to understanding the multifaceted nature of education and educational outcomes.

The author's position on reflective thinking also needs to be acknowledged. In his analysis, Peters underlined the centrality of reflective thinking in developing students' intellectual autonomy and enhancing self-analysis competency. Reflection and reflective

thinking, the reviewer believes, also help students develop coherent and thoughtful perspectives on various educational and societal issues.

Peters' perspectives on values and ethics are other sources of strength for the work under review. By emphasizing moral and ethical developments, Peters underlined the role that education should play in cultivating ethically informed individuals capable of making reasoned moral decisions. His position on the importance of values and ethics, the reviewer contends, is instrumental in developing a broader vision of education that extends beyond mere knowledge acquisition.

Another particular strength of Peters' perspective is his emphasis on the centrality of rigorous philosophical analyses in developing educational theories. By analyzing various philosophical perspectives, Peters brought a critical and reflective lens to educational concepts and practices. This analytical approach, the reviewer believes, is helpful for clarifying the aims, values, and methods of education and developing a more robust understanding of the educational process and the educated person.

While Peters' philosophical positions on the two concepts under discussion have much strength, there are also some limitations that need to be mentioned. One notable issue in this regard is the lack of exhaustive analysis of some sensitive social and political factors that significantly impact education and the educational process. This includes issues of power dynamics, fairness, equal rights, and social justice, all of which have formidable influences on education and long-lasting impacts on the quest for equitable access to educational opportunities for citizens.

Concluding Remarks and Implications

In the philosophical work reviewed, Peters challenged simplistic views of education and promoted broader understandings of the educational process and the educated person. For him, an educational process is not just about acquiring knowledge and skills but rather a holistic process encompassing both intellectual and moral development.

Similarly, an educated person is someone who possesses a wide range of knowledge and skills, including the ability to reflect on his/her values and beliefs. Intellectual curiosity, openness to new ideas, and engagement in reasoned debates are also designated key qualities of an educated person.

Peters' perspectives on the two concepts discussed have far-reaching implications for modern education systems. One of the implications is the need to have broad educational aims. As already mentioned, Peters criticized the reductionist view of education, which focuses solely on the acquisition of knowledge or the development of specific skills. Instead, he advocated for broader educational aims that promote moral development, critical thinking abilities, and full personal growth. This perspective implies the need for educational aims that focus on the preparation of well-rounded individuals who are capable of confronting the complexities that surround contemporary societies in a thoughtful manner.

In his work, Peters strongly emphasized the importance of reflection and critical thinking skills and highlighted the need to provide students with opportunities to question, analyze, and evaluate information instead of blindly accepting it. Modern education systems can gain advantages from this perspective by promoting inquiry-based learning, which

encourages students to critically examine various issues. Moreover, prioritizing a curriculum that inspires students to analyze, evaluate, and apply knowledge while deemphasizing instruction and assessment focused on memorization can greatly benefit national education systems.

Peters' analysis also emphasized the importance of providing meaningful and authentic learning experiences for students. He consistently elaborated the centrality of engaging students in real-world problems beyond the confines of classrooms. This perspective highlights the necessity of incorporating real-world applications and project-based instructional methods.

As Peters underscored, the role that teachers play in facilitating educational processes, creating supportive and nurturing learning environments, and promoting self-directed learning is crucial. Modern education systems can benefit from this perspective by promoting teacher–student collaboration, student–centered instruction, and formative assessment that empower students to take ownership of their learning.

Finally, to gain a more comprehensive understanding of the two concepts discussed in this paper, the reviewer invites readers to explore the entire philosophical work of the author. The reviewer also encourages researchers to conduct analytical and empirical studies into the applications of these concepts within national education systems using Peters' philosophical perspectives as a framework for analysis.

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