EJTEL

ISSN (Print): 2959-1783
ISSN (Online): 2959-1791

Volume 2 Number 2
May 2024

Ethiopian Journal of Teacher Education and Leadership

College of Education and Language Studies
Addis Ababa University

Ethiopian Journal of Teacher Education and Leadership

Volume 2 Number 2

May 2024

Table of Contents

Editorial

The saying from last century — "The mediocre teacher tells; the good teacher explains; the superior teacher demonstrates; the great teacher inspires"[1] — is a fitting description of the hierarchy of teaching effectiveness. It underscores that the ultimate measure of a teacher's effectiveness is igniting a passion for learning in his/her students. This conception of teaching and role expectation is more popular today than ever. When students are inspired, they engage behaviorally, emotionally, and cognitively in their learning. They also prepare to be lifelong learners in a changing world.

There is no doubt that teaching takes place within the prevailing socioeconomic, sociocultural, and sociopolitical milieu. In the third decade of the twenty-first century, humanity is experiencing profound, unprecedented, and often swift changes. Due to material and intellectual forces beyond educators' control, the context in which schools operate and the purpose of education are undergoing drastic changes. Unfortunately, these changes inevitably affect educators, altering how they are expected to perform their duties and the purpose of their work.

Thus, the teaching profession is being redefined by advances in technology, global interconnectivity, and evolving learner profiles. For example, transformations in the professional roles of teachers and educators are generating significant implications for curriculum content and instructional approaches alike. Teachers were once regarded as gatekeepers of knowledge. Today, however, this authority has been significantly challenged, and their roles are shifting towards guiding, mentoring, and facilitating learning in dynamic and diverse classrooms. Skills such as critical thinking, collaboration, creativity, and communication are taking center stage in education, over facts selected from a specific discipline. Thus, teachers act as co-learners and mentors, helping students navigate a world where learning extends far beyond textbooks.

Evidently, digital literacy is a necessity for today’s educators, both to effectively utilize these tools and to ensure equitable access for all learners. Typically, educators are expected to be agile learners who continuously develop alongside the technologies they implement. This calls for continuous professional development to keep up with emerging changes.

For those of us in the Global South, the current developments are desirable but not free of challenges. For example, some knowledge transmitted through communication technologies can be moral or immoral, depending on the cultural lens used from this part of the globe. If left unchecked, this could undermine the purpose of schools altogether. Academic integrity is challenged when we are unable to sensibly control students' use of technology for educational

[1] William Arthur Ward. Thoughts of Christian Optimism: The Words of William Arthur Ward, Droke House, 1968

purposes. At the same time, there is digital divide between those who have access to technology and those who do not, as well as between urban and rural areas, and between centers and peripheries. This divide is also due to various learner attributes such as gender, disabilities, and the like. Other challenges for educators may include an increased workload and a higher risk of burnout due to expanded roles, as well as gaps in professional development for technology integration and institutional inertia or resistance to pedagogical change. Continued capacity development, learning, and sustained resource mobilization are essential to mitigate the impact of these challenges and make intelligent use of accessible technologies.

In general, the roles of educators are undergoing profound changes. The 21st-century educator is a multifaceted professional who blends instructional expertise with empathy, adaptability, and a commitment to lifelong learning. As education evolves, our understanding of teaching must evolve as well. For those of us in the Global South, now is the time to work harder than ever to redefine the role of educators so they can provide a quality, relevant education in today's complex, rapidly changing world. It is time for research-informed educational practices, in which applied research plays a significant role. Aligned with these concerns, the current issue of the Ethiopian Journal of Teacher Education and Leadership presents five substantive contributions that offer critical insights into educators' roles in shaping curriculum, refining pedagogical approaches, advancing assessment practices, and navigating the financial dimensions of higher education.

In his article, **Prof. Habtamu Wondimu** examines the systemic corruption and academic dishonesty (cheating) in the Ethiopian education sector, as well as the links between the two and their detrimental effect on the quality of education and the production of competent human capital. This is a timely issue in Ethiopian education, one that has been present for a couple of years, if not since objective-type examinations were introduced. Developments in information and communication technologies (e.g., social media platforms) will further complicate the problem. **Robel Getachew Worku and his colleagues** examined the effect of item position changes on students' achievement scores in the Ethiopian University Entrance Examinations (EUEEs). As the authors indicated, four different coded booklets were introduced by reshuffling item orders to combat exam malpractice. Recognizing the effort, the paper critically presents the differential impact of item order on test takers based on the principle of proper academic testing. The third article in the current issue is titled "Future Perspectives in the Ethiopian Secondary School Curriculum and Instruction" by **Akalewold Andargu Gashe and colleagues.** The study evaluated the extent to which the school curriculum incorporates Future Perspectives, considering three sub-themes: personalized learning, lifelong learning, and integrated skills. The study concluded that Future Perspectives had not been adequately incorporated into the curriculum. The paper by **Dr. Solomon Areaya** takes a different approach, examining the evolution of teacher education in Ethiopia. It traces the historical roots of teacher education in Ethiopia from religious-based education to modern pedagogical frameworks. The paper also presents contemporary perspectives on the country's teacher education policies and practices. **Akalewold Andargu Gashe and colleagues** examined the economics of higher education

financing from a systems perspective and presented the interplay between system and capacity in Ethiopian public universities. The study revealed that although the expansion of higher education has increased access to universities and diversified fields of study, it has not been accompanied by proportional funding increases. The study also identified inefficiencies in resource management and the complexities of the relationship between system and capacity in the Ethiopian higher education system.

Collectively, the articles in this issue address pivotal and time-sensitive topics within Ethiopian education, contributing meaningful insights to ongoing discourse and reform efforts. I would therefore like to take this opportunity to urge those involved in the decision-making process of Ethiopian education—including researchers, teacher educators, and frontline implementers of educational programs—to carefully consider the recommendations forwarded by these researchers.

Ambissa Kenea, Professor

Editor-in-Chief, EJTEL

Unveiling the Challenges of Corruption and Academic Dishonesty in Ethiopia: An Overview of the Nature, Magnitude, Consequences, and the Way Forward

Habtamu Wondimu (wondimuhabtamu@yahoo.com)
Professor in the School of Psychology, Addis Ababa University, Ethiopia

DOI: https://doi.org/10.63990/ejtel.v2i2.12443
Received: June 18, 2024; Revised: Oct 31, 2024;
Accepted: July 28, 2025

Abstract:

The paper examines the challenges that Ethiopia is facing in systemic corruption and education sector academic dishonesty (cheating), and the links between the two and the deleterious effect on the quality of education and the production of competent human power. Corruption in general and academic dishonesty in particular are spreading in Ethiopia. The objectives of this study are to present the highlights of the findings of a National Corruption Perception Survey conducted in 2021 and the synthesis of nine empirical studies on academic dishonesty in Ethiopia, published in the past ten years. The overwhelming majority of the participants (i.e 80% of 6,627) have indicated that corruption is widely prevalent in all sectors, including the education sector, though land and revenue administration, municipalities, the judiciary, and police are reported to be more corrupted than others. As further corroboration of the situation of corruption in the education sector, focusing on academic dishonesty, the empirical studies reviewed indicate that cheating in examinations, plagiarism, recruitment of weak teachers, falsification of qualifications/documents, favoritism or nepotism in the assessment of students are widely prevalent in high schools and higher education institutions in Ethiopia. Researchers have widely reported that academic dishonesty has a positive relationship with workplace dishonesty.

Keywords: Academic dishonesty, academic integrity, corruption, cheating, plagiarism

Introduction

In general, corruption is defined as the misuse of public power, office, or authority for private benefits through bribery, extortion, influence, peddling, nepotism, fraud, speed money, or embezzlement (UNDP, 2004 &2015; World Bank, 1997 & 2000). Many researchers such as Bretag (2016) and Jones (2011) consider that academic dishonesty (mainly students' cheating which is learned deceptive and dishonest behavior) is the worst form of corruption as it leads to the production of less competent, corrupt, and unethical human power for various sectors of work in the country. Academic dishonesty (AD) threatens the equity and efficacy of instructional measurements, reduces the level of learning, and negatively affects the quality of education and graduates at various levels of education. Human life, faster socio-economic development, and societal well-being are in danger due to fake and incompetent doctors, engineers, judges, teachers, researchers, and experts. As would be substantiated later, corruption and AD are widespread in Ethiopia.

As commonly understood, lack of integrity and unethical behavior within the education sector is highly inconsistent with the efforts of production of good citizens, who are ethical, honest, hardworking, respectful of human rights and the law, fair to all, and competent in their fields of specialization (particularly those graduates of college).

Some of the areas (sub sectors) in the education sector affected by corruption are: infrastructure construction, information system, recruitment and appointment of teachers, the supply and distribution of equipment and textbooks, the allocation of allowances and scholarships, examinations and students' performance (IIEP/UNESCO, 2006; Kirya, 2019). Corruption in all these subsectors affects access, quality, equity and ethics of education. The focus of this study will be on issues of malpractice in examinations, assignments, and grades.

Hence, the objectives of this study are to present the highlights of the findings of a national corruption perception survey (NCPS) conducted in 2021in Ethiopia, and the synthesis of nine empirical studies on AD in Ethiopia, published in the past ten years. The articles were obtained through Google Scholar search, as it is convenient, easily available and has credible documents publicly accessible. In addition to suggesting strategies to deal with corruption and AD, the forms, trends, causes, and consequences of corruption and AD are discussed. It is hoped that some debates and reconsideration of policies, rules, procedures, and actions will emanate from the findings regarding the menace of AD and corruption. The paper has two parts, where the first part is mainly the National Corruption Perception Survey (FEACC-UNDP, 2021), while the second part is the synthesis of empirical studies on AD done in January and February 2024. As will be pointed out in the literature review, discussion, and conclusion sections, AD (cheating) is highly related to systemic corruption. An attempt was made to link studies in both areas.

Statement of the Problem

Regarding Corruption in General

In Ethiopia, corruption occurs in various forms, including but not limited to clientelism (relations of patronage), kleptocracy(exploiting the people), rent seeking (manipulating policies), and state capture(private interests influencing state decisions) (Kirya, 2019; Plummer, 2012). Although anti-corruption laws in the country remain strong in principle, they are not implemented adequately.

Corruption, by its nature, is hidden and inherently difficult to study with confidence. Fortunately, corruption research has also responded with plenty of indices, scores, rankings, and other assessments (Kaufmann et al., 2006; UNDP, 2011, 2015). Efforts have been made to answer questions such as how serious corruption is in a given country or sector. Is it getting worse or getting better? What interventions/actions are being taken and in which sector? Who

are the victims and perpetrators? How do the social and political systems facilitate, drive, or discourage corruption? (Campos & Pradhan, 2007; Hart, 2019; UNDP, 2005; Wondimu, 2021).

Some of the well-known indexes/indicators/surveys on corruption include Transparency International's Corruption Perception Index, World Bank's Governance Indicators, International Crime Victim Survey, and Transparency International's Global Corruption Barometer. In general, these scales measure behaviors and perceptions related to corruption and serve as tools to raise awareness, for naming and shaming, and to take some measures to reduce corruption (Graycar & Prenzler, 2013). The results/findings of such studies tend to guide policymakers, government and private sectors, investors, development partners, and donors.

According to Corruption Perceptions Index reports by Transparency International (TI), Ethiopia was the 96th least corrupt nation out of 180 countries in 2019 and 94th in 2020; and 98th in 2023 (TI, 2019, 2021, 2024). Where Ethiopia stands indicates that there is a serious national problem to deal with. Graycar and Prenzler (2013) argue that,

> If there is bribery, extortion, misappropriation, self-dealing; if major capital and development projects serve an individual's financial interests rather than the public interests; if foreign corporations bribe public officials to exploit natural resources; if human rights abuses are tolerated; if justice administration is inconsistent with the rule of law, then the society is more corrupt than those in which these behaviours are less or not part of the social fabric (P.34).

The situation of Ethiopia is of great concern when assessed with these and other relevant parameters.

Corruption is a global phenomenon that causes poverty, hinders development, and pushes away investments. It also can incapacitate political and judicial systems that should be working for the good of the people. The Ethiopian situation needs to be assessed with regard to its nature, causes, types, and effects of corruption.

Fishman (2012) indicates that "a narrow focus on student cheating is insufficient and that what is needed, instead, is a much broader approach to the development of integrity not only for students but for educators, researchers, educational practices, intitutions and cultures'' (p.8). Also, Orosz et al. (2018) have provided some evidence that ''link exists between academic cheating and corruption'' (p.89). To the writer's knowledge, there are no empirical studies that examine the relationship in Ethiopia. Therefore, the concern of this study is on both systemic (national level, socio-economic order) corruption, and AD in secondary schools and colleges in the country.

The primary objective of the NCPS was to determine the perceived and observed levels of corruption in Ethiopia and promote public debates and drive demand for change on corruption. The specific objectives of the study, inter alia, were to:

a. Find out the forms and causes of corruption that are most prevalent.
b. Identify the trends and status of corruption in the country.
c. Identify sectors and institutions most affected by and prone to corruption and examine the extent, level, type and nature of corruption.
d. Propose interventions/strategies to enhance ethics, integrity and effectively combat corruption in Ethiopia.

Regarding Academic Dishonesty

Education is crucial for national development and the development of integrity, peace, equality, social justice, and shared responsibility. The World Bank conducted a major study in Ethiopia to map corruption in various sectors, including the education sector (Plummer, 2012). The report indicated that, ''Of particular concern are the widespread perceptions of fraud in examinations, falsification of qualifications, teacher absenteeism, and favoritism towards members of the ruling party both in teacher recruitment and in student selection and assessment'' (Latham in Plummer, 2012:6). In this paper, academic dishonesty, cheating, coruption in education, and exam misconduct are used interchangeably depending on the context.

It is well documented that corruption in education sector includes bribes and illegal fees for admission and examinations, academic fraud (deception), withholding teachers' salaries, preferential promotion and placement, charging students for tutorials, illegal practices in textbook procurement, meal provision and infrastructure contracting (DFID & UKAID, 2015; TI, 2005, 2021; UNODC, 2022). Young (2013) succinctly indicated that ''whether it is in the form of bribery, kickbacks, extortion, or a selective application of laws, the lessons that parents and society instill in children from an early age are that hard work and academic achievement are not always the paths to success. A society where corruption is not regarded as a serious matter…must be considered a factor in students' decision to commit academic dishonesty'' (8).

A few studies are focusing on AD in Ethiopia, even though it is rampant and needs vast coverage and deliberations. A glaring illustration is that the Federal Ministry of Education has started administering secondary school leaving (and higher education admission) exams in public universities rather than the respective schools, since 2022, due to students' cheating throughout the country. Efforts are also made to assign invigilators from other regions and in some cases other ethnic groups to the exam centers. The key plan documents in the education sector, ESDP VI, Education Development Roadmap and GEQIP, focus on issues of access, quality, efficiency, and equity, though students' learning is emphasized (Endale et al., 2023; MoE, 2017, 2021). The serious challenges of AD are not well addressed in these documents.

Some of the studies conducted in Ethiopia are specific to the context (the school or college) and do not reflect the state of knowledge regarding AD in Ethiopia (Abeshu & Daksa, 2017; Birhanu, 2020; Chala, 2021; Feday, 2017). Hence, there is a need to bring the isolated studies' findings together and synthesize them. The focus of this and the studies for synthesis are on issues related to student learning, assessments, and marks, but not on issues of corruption related to infrastructure, textbooks, and financial matters.

The main research questions of this part of the study are the following:

1. What are the major findings of AD studies in Ethiopia?
2. What strategies are suggested by the researchers to curb AD in Ethiopia?

Brief Related Literature Review

Focusing on Corruption in General

The focus of the brief literature review will be corruption in general, followed by academic dishonesty.

Corruption has become a serious global issue as it affects the development of every nation. These days, it is hardly possible to find a country free from corruption, including those that are considered democratic and developed (though the magnitude would be low).

It is well accepted that corruption is one of the main impediments to economic development, good governance, and good service delivery throughout the world. The UN Convention against Corruption succinctly states that Corruption is an insidious plague that has a wide range of corrosive effects on societies. It undermines democracy, and the rule of law, leads to violations of human rights, distorts markets, erodes the quality of life, and allows organized crimes, terrorism, and other threats to human security to flourish (UNODC, 2004). Unfortunately, corruption exists even in institutions that are principally believed to fight corruption, such as religious institutions and professional associations. It affects people indiscriminately, both young and old, men and women alike, though it hurts the poor and the vulnerable. Cross-cultural studies show that corruption is higher in countries where there is political instability and where wide ethnic divisions exist (e.g., Treisman, 2000). Such findings should alert countries like Ethiopia, where multiculturalism and ethnic diversity exist.

The literature distinguishes between different types of corruption in terms of scale, cause, context, and method. Types of corruption have been distinguished as petty versus grand, administrative versus political, and so forth. Petty and administrative corruption refers to a smaller scale corruption involved in service delivery and could also mean the type of extortion (e.g., by traffic police) or soliciting of "speed money" (e.g., customs officials) usually by lower-level officials. Whereas grand corruption refers to transactions involving substantial amounts of money, for instance in construction or procurement, and usually involving higher-level officials. In line with this, political corruption could also encompass what is commonly referred to as

"state capture", where groups can influence state rules and regulations in such a way that it would allow them to gain unjustified economic or political benefits (Campos & Pradhan, 2007; FEACC-UNDP, 2021; Graycar & Prenzler, 2013).

The Transparency International (TI) 2018 report shows that the major sectors that are prone to corruption in Ethiopia include the energy sector, judiciary, police, land administration, and social services (health and education). On the other hand, Jenkins and Elsayed (2023) have reported that the Transport Bureau, the Ethiopian Electric Utility Office, Urban Development, Housing and Construction Bureau were the most corrupt organizations in Ethiopia.

In terms of legal and institutional frameworks, Ethiopia ratified the United Nations Convention Against Corruption (UNCAC) in 2007. Also, it has ratified the African Union Convention on Preventing and Combating Corruption in 2007. Furthermore, it established the Federal Ethics and Anti-corruption Commission in 2001 (FDRE, 2001). In addition, the Government of Ethiopia has issued the Corruption Crimes Proclamation (No. 881/2015) and has included 25 types of corruption crimes, which are punishable crimes of corruption. This proclamation clarifies the Ethiopian Criminal Code of 2004. The 25 forms of corruption crimes that are punishable as per the proclamation include abuse of power, bribery, and acceptance of undue advantage(FDRE, 2015). It is to be noted that some of these acts are also listed in the AU Convention on Corruption (2003).

TI (2021), Graycar (2020) and others recommend that promotion of justice and strengthening the rule of law by strengthening the independence of the justice system, introducing integrity and monitoring mechanisms, and promoting cooperation between organizations working to curb corruption would assist in tackling corruption.

As indicated above, to fight the rampant corruption, the Ethiopian Government established the Federal Ethics and Anti-Corruption Commission (FEACC) in 2001. FEACC's establishment was motivated by the belief that corruption and impropriety can hinder the social, economic, and political development of the country, and that the FEACC was necessary to address the threat posed to Ethiopian development by corruption and impropriety.

Focusing on Academic Dishonesty

A USA college defines academic dishonesty as: "(1) receiving, giving or using of any unauthorized assistance on any academc assignment, including quizzes, tests, written assignments, examinations or laboratory assignments; (2) referencing and or using sources beyond those authorized by the instructor in preparing papers, constructing reports, solving problems; (3) inadequate citation of sources (plagiarism); (4) acquisition, without permission of tests, computer files or similar materials that would give the student unfair advantage on an asssignment or examination; (5) submission of academic work not a student's original effort; (6) use of the same work for multiple courses without permission; (7) unauthorized altering of

academic records(transcripts) and (8)fabrication of research data''(Bowdoin, 2023: Article IV,1). This is an elaborate definition of AD worth accepting in principle. However, the need for the prevalence of academic integrity (AI) is also worth mentioning. Where there is high-quality education, AI is also high. AI generally means the commitment to honesty, trust, fairness, respect, and responsibility in academia (Eckstein, 2003; Fishman, 2012; Jones, 2011; NAIN, 2021). It is living these values! Falsification of data, lying, cheating, fraud, theft, copying without acknowledgment, and other dishonest behaviors are unacceptable.

Latham (2012) has reported that in addition to the students' AD, assistance from invigilators and local officials are common in all regions of Ethiopia that were studied. Threatening or bribery of strict supervisors, and invigilators for their silence are also reported in several schools. Sanbi (2021) has reported that the students, teachers, administrators, and the school culture are the major causes for the academic cheating in Jimma Zone secondary schools. Scholars continue to search for the personal, environmental, cultural, internal, and external causes and contributing factors to cheating and other dishonst behaviors (Hallak & Poisson, 2007; Isakov, 2017; Rettinger & Kramer, 2009).

Techniques of cheating or AD include looking at neighbours' answer sheets, sale of exam papers, taking forbidden materials to exam halls, use of pre-arranged signals between exam takers, crib notes in pockets, impersonation (hired substitute), usage of cell phones, and bribery. The motivators for cheating include lack or low participation of students in lessons, disengagement of teachers, small physical distance between students (during exams), high pressure from parents and peers for better grades, severe competitive situation to score high (and between schools to pass more), students distorted perception of inegrity issues, lenient imposition of rules and regulations, and conducive school environment for cheating. Unfortunately, many students perceive cheating and unethical activities as ordinary common school acts to be tolerated by all (Dinka, 2015; Nwoye et al., 2019; Sanbi, 2021; Tadesse & Getachew, 2010; Young, 2013).

Several studies in the area of AD suggest that an institution's integrity programs and policies, such as honor codes, can have a significant effect on students' behavior (Bretag, 2016; Hallak & Poisson, 2007; McCabe et al., 2001; UNDP, 2011). As indicated earlier, academic integrity is loosely defined as following values and principles consistent with ethical teaching, learning, and scholarship (Bretag, 2016; Fishman, 2012). These and other researchers suggest that affirming academic integrity as a core institutional value, providing clear expectations to students and faculty behavior, reducing opportunities for temptations, and prompt action when AD occurs would help curb and/or reducing AD. Also, often mentioned are embedded culture of integrity, supportive and trusting atmosphere, severity of punishments, existence of clear rules regarding AD, faculty monitoring unacceptable behaviors, peer pressure not to cheat,

prevalence of likelihood of being caught or reported, and small class size as reducers of AD and cheating.

Methods of Study

Method of the National Survey

The NCPS led by this researcher (sponsored by the FEACC and the UNDP), where 6,627 adults (31% females & 69% males) from rural (46%) and urban (54%) Ethiopia, sampled (convenient) from households, public institutions, and private institutions was conducted in 2021.

The sample size allocated to each region and the socio-economic sectors (based on population size) is provided in Table 1. All regional states were included, except Tigray, due to security problems.

Table 1

Sample Distribution of Respondents by Region/City Administration and Sample Sector

	Sample sector							
Region	**House holds**	**CSOs/NGOs**	**Religious institutions**	**Private institutions**	**Public institutions**	**Professional associations**	**Media**	**Total**
Addis Ababa	359	34	14	97	79	3	20	606
Afar	244	23	9	67	57	1	2	403
Amhara	785	74	30	214	179	5	4	1291
Benishangul-Gumuz	178	17	7	48	40	1	2	293
Dire Dawa	127	12	5	35	29	1	2	211
Gambela	118	11	4	32	28	1	1	195
Harari	89	10	3	23	19	0	2	146
Oromia	981	96	38	271	224	3	4	1617
SNNP	728	64	27	201	167	4	3	1194
Somali	409	39	15	111	93	2	2	671
Total	**4018**	**380**	**152**	**1099**	**915**	**21**	**42**	**6627**

Source: *FEACC-UNDP & Frontieri, 2021*.

The methods of measuring corruption include public expenditure tracking, surveys, FGD involving dialogue between ordinary people, Delphi method featuring opinions from researchers and experts, interviews with police officers and judges and anticorruption agencies. Some researchers recommend that the existing scales/surveys be adapted, rather than trying to develop own new scales. One needs to be clear on what is to be measured. Why to measure it and the available measures for the purpose (Hart, 2019; Kaufmann et al., 2006). The criteria to use to adapt a measure include validity (accuracy), reliability (consistency), clarity, ease of use/administration, and cultural/sectoral appropriateness. The tools used by the FEACC-UNDP study (NCPS) fulfilled these criteria.

For the NCPS, the development of the tools (one for each sector) involved adaptation, translation to Amharic, Afaan Oromo, Somali, and Afar languages, pilot testing, and refinement of the tools. The data collection tools were pilot tested on 382 adults in selected areas of Addis Ababa, Oromia, Afar, and SNNP. The data were collected by trained enumerators using Android-based tablets for the pilot and main study. The analyses were made using descriptive statistics, mainly percentages and means. All ethical principles, such as no harm, consent, and confidentiality, were maintained.

Method of Research Synthesis of AD Studies

The Google Scholar search terms used were: Academic dishonesty in Ethiopia, academic corruption in Ethiopia, academic cheating in Ethiopia, dishonest behavior in education, corruption in the education sector in Ethiopia, academic/exam misconduct in Ethiopia, and plagiarism in Ethiopian schools/universities. The number of articles identified and downloaded was 26, of which only nine fulfilled the inclusion criteria.

The inclusion criteria were Journal articles published in the English language, articles of empirical research focusing on AD, articles published in the past ten years, and articles focusing on secondary and tertiary level education in Ethiopia. The exclusion criteria were articles published in languages other than English, articles not fully focusing on Ethiopia, articles not focusing on AD/cheating/corruption, and articles not published in journals (proceedings, book chapters, reports). The Google Scholar search engine was used for searching the information in January and February 2024.

To conduct the research synthesis, the steps and procedures followed were those recommended by various scholars (Cooper, 2017; Finfgeld-Connett, 2018; Tawfik et al., 2019), although the latter two place greater emphasis on meta-synthesis and meta-analysis approaches. Research synthesis, systematic review, and meta-analysis are terms often used interchangeably; the first is preferable for the study at hand in line with Cooper's (2017) suggestion. "Research synthesis focuses on empirical research findings and has the goal of integrating past research by drawing overall conclusions (generalizations) from many separate investigations that address identical or related hypotheses or problems'' (Cooper, 2017: 18). The seven steps of the process of research synthesis are formulating the problem, searching the literature, gathering information from studies, evaluating the quality of the studies, analyzing and integrating the outcomes of studies, interpreting the evidence, and presenting the results (Cooper, 2017). Both research synthesis and meta-synthesis assist in constructing greater meaning through the integrating and interpretive process across the studies and to discover patterns and common threads on a specific topic/issue. They would be very useful for making evidence-based policies, decisions, and implementations.

After the selection of the nine articles, each article was read, marking main ideas/codes/themes/categories. Based on the highlighted terms and the literature reviewed, a coding guideline was drafted. The codes include nature, magnitude/level, context, causes/reasons, justifications, types or forms of cheating, actors, attitudes, and the measures to take to curb AD/cheating. After drafting the coding guideline, each article was read again to code the findings as per the guideline. Finally, the analysis and interpretation of the coded data were made.

Findings

Highlights of the Findings of the NCPS by Socio-economic Sector

The key finding is that corruption is widely prevalent in all sectors, including the education sector, though land and revenue administration, municipalities, the judiciary, and police are reported as more corrupt. The participants ranked corruption as the third major socio-economic problem that Ethiopia is facing, next to the high cost of living and unemployment. The summarized findings of the NCPS will be presented by sectors: Households, public institutions, private institutions, CSOs/NGOs, religious institutions, professional associations, and the media.

1. Household participants

The findings concerning households, where 4,018 adults participated, show that the overwhelming majority (84.6%) of the households perceive that there exists corruption in public institutions, followed by private institutions (51.5%) and CSOs/NGOs (38.9%). Some institutions indicated by the respondents, as corrupt, include land management, municipality office, transport bureau, police and traffic police, and Woreda courts.

The participants of the study (92%) endorsed the acts and practices listed in the Corruption Crimes Proclamation 881/2015 as corruption. Bribery, acceptance of undue advantages and abuse of power or responsibility are the common forms of corruption that often prevail.

The major reason given for offering gratification is that there is no other way to obtain a service. In contrast, some respondents indicated moral unacceptability and risks of punishment as reasons for not giving gratification. Most respondents (54%) perceive that corruption in Ethiopia is at lower level than it was about five years back, yet the great majority (92%) view corruption as a serious problem in the country today. Greed and desire to get more, ambition to become rich quickly and being devoid of ethics or moral values are the major causes of corruption in Ethiopian context. Overall, 69% of the participants consider women to be less exposed to corruption compared with their male counterparts, and they generally believe that appointing women in areas vulnerable to corruption would help as a therapy to combat corruption in Ethiopia in general.

2. Public Institutions

Complaints handling, perception of corruption, presence and tolerance of corruption, trend and status of corruption, and perceived causes of corruption were some of the main issues assessed regarding public institutions. The results obtained from public institutions' participants were similar to those of households. However, undue delay of matters and maladministration in governance of public enterprise work were the most common forms of corruption reported (by 60%) as prevailing in public institutions.

Regarding the integrity of institutions under the legislative branch of government, most respondents (75%) perceive that these institutions are honest (i.e., Human Rights Commission, Ombudsman, FEACC, Parliament, etc) An exception was the Ethiopian Broadcasting Authority, where none of the respondents forwarded a favourable rating.

3. Private/Business Institutions

Corruption is one of the main challenges currently facing private entities in the operation and growth of their business. According to the respondents (over 50%), public institutions, private enterprises, and NGOs are organizations where corruption is widely prevalent. Regarding reporting incidents of corruption, 64% of the respondents indicated that neither other people nor themselves report corruption practices whenever they experience them.

Undue delay of matters/actions, maladministration of business/work, and abuse of power are the common forms of corruption that reportedly prevail in business enterprises. Greed and the desire to get more were cited as the leading causes of corruption in Ethiopia. This is followed by the ambition to get rich quickly and have no ethics or morals. Ethiopian Investment Commission, from the executive arm, and the Federal Supreme Court, from the judiciary arm, were mentioned as institutions that render good quality services and are labeled as honest institutions by respondents (nearly 50%). Private entities perceive that professional associations, the Prime Minister's Office, and religious institutions would contribute more to the fight against corruption in the country. On the other hand, awareness creation campaigns, registration of assets, and the establishment of federal and regional EACC initiatives were mentioned as the most effective measures in combating corruption in Ethiopia.

4. CSOs and NGOs

Bribery, abuse of power or responsibility, and misappropriation in the discharge of duties were among the major forms of corruption mentioned by CSO and NGO participants. Greed and desire to get more, and ambition to get rich quickly are the main causes of corruption. Participants (over 40%) reported that corruption and failure to expose corrupt acts also prevailed in NGOs and CSOs of the country.

Regarding service delivery, private banks took the leading position in the quality of service, whereas Ethiopian Electric Utility was rated as an organization with poor service delivery.

Despite the need to report corruption, people did not do so mainly because of the fear of retaliation. In combating corruption, mass media (newspapers and TV), regional ethics and anti-corruption commission, civic society organizations, and non-governmental organizations were considered as key players.

5. Professional Associations

The overwhelming majority (75%) of the respondents from the professional associations sampled indicated that bribery, acceptance of undue advantage, and appropriation and misappropriation in the discharge of duties, as well as lack of law enforcement, are the common forms of corruption prevailing in Ethiopia. About 47% of the respondents indicated that the current government's will and desire in fighting corruption is higher compared to the situation five years back. Corruption is ranked as the third major problem that Ethiopia is facing, next to unemployment and the high cost of living.

6. Religious Institutions

Respondents from religious institutions (over 50%) indicated that abuse of power or responsibility and bribery are among the top forms of corruption they observed in Ethiopia. 63% also indicated that corruption has shown a decreasing trend today in the country as compared with its level about five years ago, yet it remains a serious problem in the country. In the views of religious leaders/respondents, ambition to become rich quickly, greed and desire to get more, and lack of ethics or morals are the main causes of corruption in Ethiopia. Though small in numbers, the prevalence of corruption within faith-based institutions is also reported (by about 25%).

7. Media Institutions

Media sector respondents (95%) indicated that abuse of power, bribery, acceptance of undue advantages, etc., listed in the Corruption Crimes Proclamation 881/2015 are widely prevalent in Ethiopia. Non-existence of ethics or morals, ambition to become rich quickly, and greed and desire to get more are the main causes of corruption. According to 43% of media sector participants, the level of corruption is higher today than five years ago in the country and the media sector.

Assigning anti-corruption officers in various offices and awareness creation /training campaigns are recommended by the media participants as effective ways of fighting corruption in Ethiopia. Legal aid and council strengthened whistleblowers' protection, and protection of media personnel were also indicated as valuable resources and support for them in the fight against corruption.

Findings from the Research Synthesis on AD

The data used to report the findings here are mainly the integrated findings of the nine empirical studies conducted in Ethiopia in the past ten years. The objectives of the nine studies were

mainly to find out the level, types, and justifications for cheating (Dejene, 2021; Desalegm & Berhanu, 2014). Also, the perceptions of students and teachers regarding AD were studied (Bachore, 2016; Berhanu, 2020). The studies were conducted in Hawassa, Debre Markos, Dire Dawa, Bahir Dar, and Arsi universities and high schools in Jimma, Dire Dawa, and Harar. The methods of study and tools of data collection were qualitative, quantitative, mixed, and classroom observation, though self-report questionnaires were the dominant ones for data collection.

The main codes used to synthesize the data are nature, magnitude/level, context, causes/reasons, types or forms of cheating, actors, attitudes, and the measures to take to curb AD/cheating. During the analysis and interpretation, some of the codes were put together to create a better meaning. Hence, we will be using broader categories: Nature, types and forms of cheating; causes and reasons for cheating; attitudes and perceptions on cheating; and the way forward.

1. ***Regarding the nature***, types and forms of cheating, the studies indicated that copying from others, use of crib sheets, sharing exam answers, using prepared answers, writing possible answers on body parts, exchange of answer sheets, usage of agreed on codes/signals, and collaboration with the invigilators are widely reported (Birhanu, 2020; Dejene, 2021).

2. ***Regarding the causes and reasons for cheating***, most studies indicated that it is a ‘’normal or common’’ behaviour, difficulty of the exams, pressure to score high or at least to get a pass mark, parents want them to get better grades, lack of self-confidence, to join colleges at any cost, to graduate and have a job, fear of failure, and other students also do it (Abeshu & Daksa, 2017; Gobie et al. 2020).

3. ***Regarding the magnitude or number of cheaters prevalent in the studied colleges and schools***, it is reported that 20 to 81% of the students have admitted cheating sometime in the past year or so (Dejene, 2021; Desalegm & Berhanu, 2014; Mulisa, 2015). The findings regarding the differences between boys and girls are mixed and not conclusive. The attitudes towards cheating and AD are mixed. Some students (over 50%) consider it a serious problem, while others (30%) consider it a minor problem ‘to be tolerated’ by the schools and colleges.

   There are some indications that cheating in assignments and plagiarism is more common among students than exam cheating (Birhan et al., 2020; Chala, 2021; Mulisa, 2015;). The studies were done at various schools and colleges in the country and seem to indicate that AD is prevalent in all areas/contexts, and fields of study of the students. However, it is to be noted that where there is laxity in invigilation, and space between the examinees is small, reportedly the number of cheaters increases (Desalegm & Berhanu, 2014; Chala, 2021).

The focus of the synthesized studies was students in colleges or secondary schools, though instructors have participated in some of the studies. The students have reported in some cases that the teachers look the other way when cheating is taking place and even assist during national examinations (Birhanu, 2020; Chala, 2021; Desalegm & Berhanu, 2014). One study indicated that 80% of the students would not report the act of cheating witnessed in exam halls or in doing assignments (Desalegm & Berhanu, 2014).

4. ***Regarding the measures to take to curb AD***, several suggestions were forwarded. Revisiting the code of conduct related to AD, implementing severe punishments including dismissals, development of academic integrity policies accepted by all the key stakeholders (at least by the students, teachers, administrators, and parents), developing students' self-confidence, teaching good study habits, strict supervision and strengthening the culture/habit of integrity in schools and colleges are mentioned (Modes, 2020; Gobie et al., 2020).

Discussion

In this section, the researcher tried to indicate the relationship between systemic (societal level) corruption with academic dishonesty (academic corruption). Some of the challenges prevalent and how to deal with them were indicated. Also, efforts were made to integrate empirical findings with what is in the related literature.

There is a general agreement that the concepts of corruption and academic dishonesty are complex, and some disagreements exist regarding their definitions. For the purposes in this study, to define corruption, the researcher has adopted the definition often used by the World Bank, UNDP, and TI. Corruption is defined as the misuse of government power/office for private gain and the willful violations of rules or codes of conduct. It is receiving illegitimate gain through various acts. Corruption takes many forms, such as embezzlement, fraud, nepotism, bribery, extortion, and money laundering. The Ethiopian Corruption Crimes Proclamation (88/2015) lists 25 acts, including the ones mentioned above. It is dishonest and illegal behaviors of officials, administrators, and experts.

Academic dishonesty is also broadly defined as deliberate and unacceptable behaviors that are against academic rules and regulations. It includes cheating and plagiarism. Using crib notes on tests, copying from another student on a test, copying others' work on assignments and papers without acknowledgements, fabrication of data or sources, etc., are considered dishonest behaviors.

The reasons, for corruption and AD, provided by the literature include greed, selfish interest, putting self before others, lack of democracy and transparency, prevalence of political

instability, lack of accountability and integrity, poverty and the desire to fulfill basic needs, nonexistence or lack of implementation of rules and regulations, peer pressure, competition to be better or greater in grades or wealth, high competition for limited opportunities for college admission, and lack of (weak, eroded) ethical values and behavior at all levels (FEACC-UNDP, 2021; McCabe et al., 2001; Nwoye et al., 2019). The contributions of ignorance, particularly in the case of plagiarism, incompetent instructors, inadequate policies, underdeveloped moral reasoning, sense of inadequacy, peer pressure, and the prevalence of cheating culture are also indicated by some studies (Bachore, 2014; McCabe et al., 2001; Nwoye et al., 2019). Particularly when those corrupt officials, experts, and students go unpunished, the chances are high that others will emulate them. Thu (2022) and Quah (2021) provide vast evidence that corruption and weak/poor leadership are also major underlying causes for underdevelopment. Tella, Liberty, and Mbaya (2014) further confirm that bad leadership and corruption are highly related and are impediments to peace, stability, and development. There is abundant evidence that ethical and effective leaders can play decisive roles in the fight against corruption. Studies conducted in Asian countries report that having ethical leadership and taking serious measures have reduced corruption in countries such as Singapore, Hong Kong, Malaysia, Japan, Taiwan, and South Korea (Quah, 2021; Talvitie, 2017). These days, the emphasis seems to be on leadership integrity, which is the act of being morally trustworthy, honest, true to oneself, accountable, leading by example, and with clear principles (values and beliefs).

Corruption in education threatens the well-being of society as it erodes social trust, fairness, merit, and worsens inequality (Kirya, 2019). Students' cheating will have catastrophic results on the quality of education, the socioeconomic situation of the country, and the Ethiopian society in general. After critically reviewing the civics and ethical education textbooks in the primary and secondary schools of Ethiopia, Wondimu (2016, 2018) has concluded that the students in primary and secondary schools are not well equipped with the competencies and skills such as non-violent ways of solving conflicts/differences, negotiation/dialogue skills, attitudes of responsibility and justice, and the obligation to abide by rules and regulations. Given such circumstances, hard work, innovation and creativity, discipline and fairness, honesty, and integrity will have no place in academia, in the workplace, and the society at large. The students who have cheated to get through college will not be competent innovators, leaders, or experts in their areas of specialization. Gradually, the number of competent and skilled personnel in many socioeconomic sectors will dwindle, and a dim future will reign. Though not the focus of this study, it is reported that teachers' professional misconduct and low dedication to the profession are well-documented. Reportedly, many secondary school teachers in Ethiopia have low commitment to assist their students, lack interest in their profession, work with low motivation, waste instructional time, and would like to leave teaching if given another job opportunity (Ayenalem et al., 2023).

Available evidence indicates that corruption is a major obstacle to growth, economic and social development; it lowers the quantity and quality of health care and education services, denies the government of tax revenues, and discourages investments (Boly et al., 2020). This and other sources report that there is plenty of evidence that shows higher corruption correlates negatively with the quality of education. Learning and efforts are required to build human capital, pass examinations, and obtain degrees. AD weakens the incentives to work hard and acquire the needed competence and skills.

Some would argue that there is no direct relationship between systemic and education sector corruption/cheating. But it should be noted that parents, teachers, students, administrators, officials, and experts belong to the community, and one learns from the others. Socialization takes place in the community, schools/colleges, and the workplace. Hence, one influences the other!

Empirical studies conducted in Ethiopia (also mentioned earlier) show that there is vast corruption and academic dishonesty in the various socioeconomic sectors, including the education sector (Bachore, 2014; Chemir, 2019; FEACC-UNDP, 2021; Plummer, 2012; Rahman, 2018; Teferra, 2001; TI, 2021). Recent Afrobarometer (2024), in which 2,400 adults from all regions participated, indicates that 46% of civil servants, 49% of the police, and 45% of tax officials are perceived as involved in corruption in Ethiopia. It is also reported that corruption has increased in the past year (42% responded), and the government is handling the fight against corruption badly (65%).

It seems that basic ethical standards of conduct expected of academic staff such as integrity, honesty, fairness, accountability, equality, pursuit of truth and respect seem to be hard to come by though declared by many universities (e.g., We can refer to AAU, Bahir Dar, Gonder, Jimma, Hawassa, and Woliyita universities codes and legislations).

This researcher, in agreement with a few others, is convinced that the AD is highly related to systemic corruption, and one is a contributor to the other. The lessons that parents, officials, and society instill in children from an early age, that hard work, competence, and academic achievements are not the paths to success, affect students' behavior. Social learning theory tells us that the acquisition of new behaviors occurs through direct experience involving trial and error and selecting effective responses (Bandura, 1977, 1986). Human beings get/learn most of their thoughts and behaviors by observing the actions of others, who serve as models. This means that we learn most behavior by observation of the responses of others (parents, teachers, peers, officials, etc.), particularly if they are rewarding. Hence, some corrupt behaviors in general and academically dishonest behaviors such as cheating can easily be explained that the classroom and the school atmosphere affect, and what others do are imitated. Some arguments point out that 'corrupt actions are typically habitual', meaning that corruption of persons and

institutions usually require a pattern of corrupt actions (SEP 2011: 16). Hence, we can argue that systemic corruption has a direct effect on AD in schools, and dishonest behaviors and cheating environments in schools and colleges have some effect on society.

Conclusions and Recommendations

Though some of the strategies or actions to take are indicated or implied in the Findings and the Discussion sections above, a few conclusions and recommendations are forwarded below (at systemic/societal and education sector levels).

Concerning Corruption at the Systemic Level

Various international and regional organizations, such as World Bank, UNDP, TI, Afrobarometer, and academics have developed reliable and valid tools to measure the types and levels of corruption in various sectors. Both objective and subjective indicators are often used. The most common approach is a hybrid where perceptions and experiences are assessed in cultural contexts. The findings alert the public and the government that preventive and remedial measures should be implemented. The NCPS adapted several well-known tools to gather data from seven major socio-economic sectors in Ethiopia.

We can conclude that all sectors, including faith-based and professional associations, had some corruption experiences, the public sector being the main corrupt sector. Over 90% of the participants identified those 25 corruption crimes listed in the Ethiopian Government's Corruption Crimes Proclamation (881/2015). This leaves no room for claims of ignorance or lack of awareness or knowledge.

Greed and desire to get more, ambitions to be rich quickly, lack of ethics and morals were indicated as the major causes of corruption. In the list of grave challenges that Ethiopia is facing, corruption is rated as the third one (by 76% of the participants), with inflation and unemployment taking the major problems' spots. The most corrupt sectors include municipalities, land administration, revenue/tax collection offices, and transport bureaus.

It is recommended that citizens be provided with safe channels to report any incidence or suspicion of corruption or other malpractices regarding all organizations.

Serious commitment of top leadership in Ethiopia in all sectors is required to curb the devastating effects of corruption in Ethiopia. High level integrity, meaning being trustworthy, honest, true to oneself, accountable, leading by example, and with clear principles (values and beliefs) is expected of leaders at all levels, but most importantly at top levels. Lower tiers of government will be effective only when they have access to the necessary human and financial resources to undertake the services they have been conferred. Thus, there is a dire need for assessing, improving, and accommodating varying degrees of local capacity so that such local

governments will plan, finance, and manage their responsibilities. Otherwise, lack of capacity' excuses may hamper sound utilization of public resources and nurture corruption.

There should be clear and objective requirements for awarding government contracts. These requirements may include (but not limited to): creating a system with clear procedures and award criteria; notifying the transparency requirements to all parties; recording procurement proceedings; disclosing information to interested parties including the publication of the award, the name and address of the bidders, and the amount of the bid; ensuring that there is no discrimination against bidders of any kind; and mandating a formal system for challenging bids.

The most frequently cited reason for refraining from reporting corrupt acts was fear of potential harassment and reprisals. Lack of knowledge as to where to report acts of corruption (lack of awareness of available reporting mechanisms) also emerged as a crucial factor for the reluctance by household respondents in the NCPS. Moreover, policymakers need to assess what already exists and identify any weaknesses or gaps in the national and sectoral systems. The law should enable authorities to use preventive protective measures, such as the granting of confidentiality to prevent reprisals from occurring in the first place. A comprehensive review of existing reporting mechanisms will also help determine how they can be improved.

Also, the importance of corruption reporting by the media as well as the impact of new technology on the ways and means people can employ to communicate information about corruption, need to be considered. Furthermore, merit-based recruitment and promotion policies; the tenure of employment to protect the independence of public servants from undue political influence; transparent pay packages and internal controls; and integrity management systems, including the implementation of codes of ethics, ethics training, and whistle-blowing mechanisms, should be promoted to prevent corrupt practices in HR management.

In addition, serious efforts should be made by the Ministry of Education and FEACC towards adequate and better civic education (also raising awareness on the ugly faces of corruption) with regards to the development of ethical and highly conscientious citizens who respect rights, perform their duties diligently, and stay far away from corruption. This researcher also thinks that the media and civic organizations can play important and productive roles in this regard.

Moreover, there needs to exist clear and legally binding collaboration between the major stakeholders such as FEACC, Police, Courts, and the Attorney General at various levels and specific issues. All parties, particularly the Government and the FEACC, work on prevention mechanisms, monitoring, clear systems of operation, including digitalization of various operations, the rule of law, accountability, and transparency.

Concerning Academic Dishonesty

Academic dishonesty, which is unethical, illegal, immoral, and in violation of schools, colleges and universities' regulations, is highly prevalent in the Ethiopian education sector. Many students (20 to 80%) in high schools and colleges have admitted that they have cheated in the past year or two on exams and assignments. The studies reviewed indicated that cheating has increased in the past several years. Wide tolerance (by teachers and the school administration) of cheating and other dishonest behaviors prevail in schools and higher education institutions.

It is argued that systemic corruption and education sector cheating are related, and one influences the other, terribly affecting the quality of education and the competence level of graduates (workforce). Cheating tends to reduce the level of student learning and threatens the quality of education.

The major contributing factors to AD are performance anxiety, peer pressure, laxity of the environment for cheating, self-justification habits, pressure to please parents, stiff competition, lack of self-confidence, poor studying habits, fear of failure and its consequences, lack of serious measures/ punishment when/if caught, and the lack of clear code of conduct.

It is recommended that AI documents should be drafted/revised, deliberated on, approved, publicized, and implemented in all schools, colleges, and universities of the country. The cooperation of teachers, students, the administration, parents, and the community is mandatory if this evil of AD is to be wiped out from the sector and the society at large in the next few years.

An embedded culture of AI, supported by a trusting and fair atmosphere, but with severe punishment for breach, is highly recommended if the situation is to improve. This would involve clear codes of conduct (honor code, integrity code, or rules and regulations) regarding acceptable and unacceptable behavior, with serious monitoring of the implementation by the administration, instructors, and the students themselves.

Civics and ethics education with the relevant contents and modes of facilitation, a well-structured code of conduct, participation of parents on matters of student discipline, schools/colleges administration reflecting the habit of zero tolerance for AD, and teachers being role models would contribute to the reduction of cheating.

All loopholes, such as not being aware of the code of conduct, lack of understanding of the consequences of AD, others are also cheating, too difficult examination, small classes without adequate distance between students, and the claim of shortage of time, should be closed/addressed.

Limitations of the Study

This study has some limitations. It only describes the perceived and experienced (also observed) types and causes of corruption and AD. More rigorous statistical analysis might shed more light.

The NCPS data is about three years old, and with the fast-changing political, social, and economic situation of Ethiopia, some of the figures might be higher or lower as of today (early 2024). Also, the usage/analysis of older and secondary data/publications might enrich the findings and conclusions of the AD.

References:

Abeshu, G., & Daksa, D. (2017). Avoidance of academic dishonesty in selected secondary schools of Jimma Towne. *International Journal of Scientific and Research Publications*, *7*(8), 617-625. https://repository.ju.edu.et//handle/123456789/5110

Africa Union (AU). (2003). *African Union Convention on Preventing and Combating Corruption*. Addis Ababa, Ethiopia: African Union. https://au.int/en/treaties/african-union-convention-preventing-and-combating-corruption

Afrobarometer. (2024, February 22). *Ethiopia: Round 9 summary of results*. Afrobarometer. https://www.afrobarometer.org/publication/ethiopia-round-9-summary-of-results/

Ayenalem, A.K., Gone, M. A., Yohannes, M. E., & Lakew, K. A. (2023). Causes of teachers' professional misconduct in Ethiopian secondary schools: Implications for policy and practice. *Cogent Education*, *10*(1), 1-20. https://doi.org/10.1080/2331186X.2023.2188754

Bachore, M. M. (2014). Academic dishonesty/corruption in the period of technology: Its implication for quality of education. *American Journal of Educational Research*, *2*(11), 1060-1064. https://doi.org/10.12691/education-2-11-9

Bachore, M. M. (2016). The nature, causes and practices of academic dishonesty/cheating in higher education: The case of Hawassa University. *Journal of Education and Practice, 7*(19), 14–20. https://www.iiste.org/Journals/index.php/JEP/article/view/31909

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Boly, A., Keita, K., Okara, A., & Okou, G. C. (2020). *Effects of corruption on education quantity and quality: Theory and evidence*. Abidjan: African Development Bank.

Bowdoin College. (2024). *The academic honour code*. Maine, USA.

Bretag, T. (Ed.). (2016). *Handbook of academic integrity*. Adelaide: Springer.

Campos, J. E., & Pradhan, S. (Eds.). (2007). *The many faces of corruption*. Washington, DC: World Bank.

Chala, W. D. (2021). Perceived seriousness of academic cheating behaviors among undergraduate students: An Ethiopian experience. *International Journal for Educational Integrity, 17*(1), 2. https://doi.org/10.1007/s40979-020-00069-z

Chemir, S. (2019). Academic Dishonesty among Higher Education Students in Ethiopia: An Article Review. *The Ethiopian Journal of Higher Education*, *6*(1), 91-122.

Colgate University. (2023). *CU academic honor code*. Hamilton, NY: Colgate University.

Cooper, H. (2017). *Research synthesis and meta-analysis: A step-by-step approach* (5th ed.). Los Angeles, CA: Sage.

Dejene, W. (2021). Academic cheating in Ethiopian secondary schools: Prevalence, perceived severity, and justifications. *Cogent Education, 8*(1), 1866803. https://doi.org/10.1080/2331186X.2020.1866803

Desalegn, A. A., & Berhan, A. (2014). Cheating on examinations and its predictors among undergraduate students at Hawassa University College of Medicine and Health Science, Hawassa, Ethiopia. *BMC medical education*, *14*(1), 89.https://doi.org/10.1186/1472-6920-14-89

DFID & UKAID. (2015). *Why corruption matters? Understanding causes, effects, and how to address them*. London: DFID.

Dinka, H. (2015). *A study on academic cheating in AA secondary schools*. Addis Ababa: AA City Government Education Bureau.

Eckstein, M. A. (2003). *Combating academic fraud: Towards a culture of integrity*. Paris: IIEP/UNESCO.

Endale, K., Araya, M., Woldehanna, T., & Sabates, R. (2023). GEQIP-E implementation practices and value-added learning at primary schools in Ethiopia. *RISE Working Paper Series, 23*(132). https://doi.org/10.35489/BSG-RISE-WP_2023/132

FDRE. (2001). *Federal Ethics and Anti-Corruption Commission Establishment Proclamation No. 235/2001*. Addis Ababa: FDRE.

FDRE. (2015). *Corruption Crimes Proclamation 881/2015*. Addis Ababa: FDRE.

FEACC-UNDP. (2021). *Ethiopian third national corruption perception survey*. Addis Ababa: Frontieri. *(Unpublished report, over 270 pages long)*

Feday, S. W. (2017). Academic dishonesty in Ethiopian higher education and its implications for corruption. *Beijing Law Review, 8*, 10–20. https://doi.org/10.4236/blr.2017.81002

Finfgeld-Connett, D. (2018). *A guide to qualitative meta-synthesis*. New York, NY: Taylor & Francis.

Fishman, T. (2012). *The fundamental values of academic integrity*. Clemson University: ICAI.

Gobie, W., Wesene, G., Aynalem, M., Amare, Z., & Melaku, A. (2020). Possible reduction mechanisms of exam cheating practices for first year management regular students in HRM course. *American Journal of Education and Information Technology, 4*(1), 19–27.

Gobie, W., Wesene, G., Aynalem, M., Amare, Z., & Melaku, A. (2020). Possible reduction mechanisms of exam cheating practices for first year management regular students in HRM course. *American Journal of Education and Information Technology*, *4*(1), 19–27. http://ajeit.org/article/10.11648/j.ajeit.20200401.13

Graycar, A. (Ed.). (2020). *Handbook on corruption, ethics and integrity in public administration*. Northampton, MA: Edward Elgar Publishing.

Graycar, A., & Prenzler, T. (2013). *Understanding and preventing corruption*. New York, NY: Palgrave.

Hallak, J., & Poisson, M. (2007). *Corrupt schools, corrupt universities: What can we do?* Paris: UNESCO Publishing.

Hart, E. (2019). *Guide to using corruption measurements and analysis tools for development programming* (CMI U4 Guide 2019). Oslo.

IIEP/UNESCO. (2006). *Ethics in education: The role of teacher codes, Canada and South Asia*. Paris: UNESCO.

Isakov, M. (2017). Behavioral correlates of cheating: Environmental specificity and reward expectations. *PLOS ONE*. Retrieved from the internet.

Jenkins, M., & Elsayed, S. (2023). *Ethiopia: Overview of corruption and anti-corruption efforts*. Berlin: CMI/TI.

Jones, L. R. (2011). *Academic integrity and academic dishonesty: A handbook about cheating and plagiarism*. Melbourne: FIT.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2006). Measuring corruption: Myths and realities. *World Bank*. Retrieved from the internet.

Kirya, M. (2019). *Education sector corruption: How to assess it and ways to address it*. Berlin: CMI/TI.

Latham, M. (2012). Education sector corruption in Ethiopia. In J. Plummer (Ed.), *Diagnosing corruption in Ethiopia: Perceptions, realities and the way forward for key sectors* (pp. xx–xx). Washington, DC: World Bank.

McCabe, D. L., Treviño, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior*, *11*(3), 219–232. https://doi.org/10.1207/S15327019EB1103_2

Mekuria, B., Demissie, T., & Kerebih, Y. (2020). Students' Perception and Practices of Academic Dishonesty: The Case of Debre Markos University, Ethiopia. *The International Journal of Humanities & Social Studies*, *8*(1), 144–151. https://doi.org/10.24940/theijhss/2020/v8/i1/HS2001-034)

Ministry of Education (MoE). (2017). *Ethiopian education development roadmap*. Addis Ababa: MoE.

Ministry of Education (MoE). (2021). *Education Sector Development Programme VI (ESDP VI): 2020/21–2024/25*. Addis Ababa: Federal Ministry of Education.

Moges , B. . (2020). Students' Practices with Examinations Cheating: Perspective of Students in Arsi University, Ethiopia. *International Journal For Research In Educational Studies*, *6*(12), 01–19. https://doi.org/10.53555/es.v6i12.1428)

Mulisa, F. (2015). The prevalence of academic dishonesty and perceptions of students towards its practical habits: Implication for quality of education. *Science, Technology and Arts Research Journal*, *4*(2), 309–315. https://doi.org/10.4314/star.v4i2.43

National Academic Integrity Network (NAIN). (2021). *Academic integrity guidelines*. Quality and Qualifications Ireland. https://www.qqi.ie/sites/default/files/2021-11/academic-integrity-guidelines.pdf

Newoye, Y. D., Akpom, U. N., & Hwang, J. K. (2019). Students' attitudes and perceptions towards academic dishonesty. *Journal of Education and Social Policy*, *6*(1), 114-131. https://doi.org/10.30845/jesp.v6n1p15

Orosz, G., Tóth-Király, I., Bőthe, B., Paskuj, B., Berkics, M., Fülöp, M., & Roland-Lévy, C. (2018). Linking cheating in school and corruption. *European Review of Applied Psychology, 68*(2), 89–97. https://doi.org/10.1016/j.erap.2018.02.001

Plummer, J. (Ed.). (2012). *Diagnosing corruption in Ethiopia: Perceptions, realities and the way forward for key sectors*. Washington, DC: World Bank.

Quah, J. S. T. (2021). Breaking the cycle of failure in combating corruption in Asian countries. *Public Administration and Policy*, *24*(2), 125–138. https://doi.org/10.1108/PAP-05-2021-0034

Rahman, K. (2018). *Overview of corruption and anti-corruption in Ethiopia*. Berlin: CMI/TI.

Rettinger, D. A., & Kramer, Y. (2009). Situational and personal causes of student cheating. *Research in Higher Education*, *50*, 293–313. https://doi.org/10.1007/s11162-008-9116-5

Sanbi, M. (2021). *The effects of school culture on students' academic cheating in selected secondary schools of Jimma Zone* (Unpublished master's thesis). CEBS, Jimma University.

Stanford Encyclopedia of Philosophy (SEP). (2011). *Corruption*. Stanford: SEP.

Tadesse, T., & Getachew, K. (2010). An exploration of undergraduate students' self-reported academic dishonesty at Addis Ababa and Jimma Universities. *Ethiopian Journal of Education and Science*, *5*(2), 79–99. https://doi.org/10.4314/ejesc.v5i2.65375

Talvitie, A. (2017). Observed differences in corruption between Asia and Africa: The industrial organization of corruption and its cure. *Transport Research Procedia, 25*.

Tawfik, G. M., Dila, K. A. S., Mohamed, M. Y. F., Tam, D. N. H., Kien, N. D., Ahmed, A. M., & Huy, N. T. (2019). *A step by step guide for conducting a systematic review and meta-analysis with simulation data. Trop Med Health 47: 46*.

Teferra, D. (2001). Academic dishonesty in African universities—trends, challenges, and repercussions: an Ethiopian case study. *International Journal of Educational Development*, *21*(2), 163-178

Teferra, D. (2001). Academic dishonesty in African universities—trends, challenges, and repercussions: An Ethiopian case study. *International Journal of Educational Development*, *21*(2), 163–178.

Tella, C. M., Liberty, S. M., & Mbaya, P. Y. (2014). Poor leadership, indiscipline and corruption undermine peace in Nigeria. American International Journal of Social Science, 3(5), 1–8.

Thu, N. T. L. (2022). Relationship between poor leadership and corruption. *International Journal of Science and Research*, *11*(4), 1020–1023. https://www.ijsr.net/getabstract.php?paperid=SR22418041437

Transparency International (TI). (2005). *Stealing the future: Corruption in the classroom*. Berlin: TI.

Transparency International (TI). (2019–2024). *Corruption perception index for Ethiopia: 2019, 2020, 2021, 2022 & 2024*. Berlin: TI.

Transparency International (TI). (2021). *Understanding corruption and how to curb it*. Berlin: TI.

Treisman, D. (2000). The causes of corruption: A cross-national study. *Journal of Public Economics*, *76*(3), 399–457. https://doi.org/10.1016/S0047-2727(99)00092-4

UNDP. (2011). *Fighting corruption in the education sector: Methods, tools and good practices*. New York, NY: UNDP.

UNDP. (2015). *User's guide to measuring corruption and anti-corruption* (S. E. Trapnell, Author). New York, NY: UNDP.

UNODC. (2004). *United Nations convention against corruption*. New York, NY: UNODC.

UNODC. (2022). *Corruption in education: Module series on anti-corruption*. Vienna: UNODC.

Wondimu, H. (2016). Review of civics and ethical education students' textbooks by MoE. *The Ethiopian Journal of Education, 36*(2), 155–166.

Wondimu, H. (2018). Peace education as a missing piece in early years education in Ethiopia. *Ethiopian Journal of Behavioral Studies, 1*(1), 67–76.

Wondimu, H. (2021). Challenging the notion of distorted truth about measuring corruption: Some evidence from the Ethiopian national corruption perception survey. Paper presented at the Third Anti-Corruption Academic Symposium, UNODC, Sharm El-Sheikh, Egypt.

World Bank. (1997). *Helping countries combat corruption*. Washington, DC: World Bank.

World Bank. (2000). *Anti-corruption in transit*. Washington, DC: World Bank.

Young, D. (2013). Perspectives on cheating at a Thai university. *Language Testing in Asia*, *3*(6), 1–16. https://doi.org/10.1186/2229-0443-3-6

Effect of Items Position Change on Students' Achievement in the Ethiopian University Entrance Examinations (EUEEs)

Robel Getachew[1], Mekbib Alemu[2], Misrak Getahun[3]*

[1] *Doctoral Candidate, Department of Physics, Hawassa University, Ethiopia;*
[2] *Associate Professor, Department of Teacher Education, Addis Ababa University, Ethiopia;*
[3] *Associate Professor, Department of Physics, Hawassa University*
** Corresponding Author: mekbib.alemu@aau.edu.et*

DOI: https://doi.org/10.63990/ejtel.v2i2.12444
Received: June 21, 2024; Revised: Dec 26, 2024; Accepted: July 28, 2025

Abstract:

To combat exam malpractice in crowded examination rooms, the Ethiopian University Entrance Examinations have been administered in four coded booklets of different reshuffling of item orders. However, research has revealed that systematic item position changes have significant effects in achievement scores. The main purpose of this study was to find out if random item order reshuffling would also have mean achievement score differences depending on which of the exam booklets test-takers were tested with. To address this purpose, the Entrance Examination 5 subjects (English, Mathematics, and 3-sciences) for 6-years for 21 sample public schools (11,376 grade 12 students) was received from National Education Assessment and Examinations Agency. In addition to the usual descriptive statistics, the data was analyzed with Spearman's rank-order correlation to determine if the item distributions in the four booklets of the same exam significantly differ with each other. Besides, one-way ANOVA was used to determine if there are statistically significant differences in students' achievement mean scores by booklets. The Spearman's rank-order analysis shows weak to moderate item position order differences among booklets. In contrast to this, statistically significant mean achievement differences were found in 66.67% of the exams, which put at a serious disadvantage up to 16.64% of test-takers due to which exam booklets they were tested with. Hence, it was recommended that all stakeholders: test developers, exam booklet developers, result publishers and decision makers be aware of the unfairness of the current practice with item reordering and therefore take appropriate compensatory measures.

Keywords: Achievement scores, Exam Malpractice, Item Position, Test Fairness, Test Anxiety

Introduction

Background of the Study

Large-scale assessments play a critical role in enhancing educational systems by offering a structured mechanism to monitor and evaluate student performance at various levels (American Educational Research Association [AERA] et al., 2014). These assessments serve multiple purposes, ranging from measuring student achievement and certifying attainment to informing policy decisions that affect educational planning and outcomes (Kellaghan & Greaney, 2019). Furthermore, they provide valuable data that support decisions related to student placement, admission to higher education institutions, and workforce entry, thus aligning educational outcomes with societal and economic needs (Ollennu & Etsey, 2015).

However, the challenge of exam malpractice is panic in the sector of test administration. One of the challenges of exam malpractice is to administer examinations in crowded examination rooms, and the convenience of using several alternative forms of a test to reduce the possibility of exam cheating (Anastasi, 1976; Carlson & Ostrosky, 1992). But questions are frequently raised on these alternative forms of examinations such as: are these alternative item position booklets equivalent in their total scores, even though the contents are identical? The concern about whether alternative forms of examinations maintain equivalence in total scores, despite identical content, is a significant issue in educational assessment. This question arises from the need to ensure fairness, validity, and reliability when using alternative test formats, such as rearranged item booklets. The concept of equivalence in alternative test forms revolves around the idea that different versions of the same test should yield similar outcomes in terms of total scores, reflecting consistent measurement of the same constructs (Brennan, 2013). When item positions are altered, the test should still measure students' abilities accurately, without introducing biases due to differences in the cognitive load or strategies triggered by the sequence of questions (Frey, 2018).

Normally it is advised by test experts and researchers to order examination items from easy-to-hard ordering systems for the measurement and psychological advantages stated in common measurement texts (Anastasi & Urbina, 1997; Cronbach, 1990; Mehrens & Lehmann, 1991; Plake, 1980). If the position of items changes and administered in different alternate forms of tests to different students, then attention should be on the nature and treatment of psychometric properties (AERA et al., 2014; Colwell, 2013; Ollennu & Etsey, 2015; Wu et al., 2016). However, Pettijohn II and Sacco (2007) reported that many of test developers mix up the order of test questions in alternate test forms without thinking of the consequences. This might also be true for testing organizations. The consequence may have an impact on students' examination performance, stress, perceptions, test reliability, and expectations of students' easy-to-hard ordering of items (Opara & Ogbanu, 2023; Plake, 1980). Wu et al. (2016), pointed out that if either test-takers' performance or items' characteristics are affected due to item position changes, then the validity of the test in interpretation will also be threatened.

National examination in the young Ethiopian modern education system which suffered disruption from 1936 to 1941, began in 1946 after liberation from Italian occupation. Soon after, the national examination at grades 8 and 12 started in 1950 with tests coming from London, Grate Britain (Alamneh, 2017; Mamaru et al., 2023). Mamaru and coauthors (2023) who studied the history of the national exam in Ethiopia from 1946 to 2023, noted that the constructed-response essay type London-based General Certificate of Education (GCE) exam was overtaken by locally developed and administered Ethiopian School Living Certificate Examination (ESLCE) by 1955. The ESLCE retained the GCE exam format for some time till marking and scoring by those subject experts who developed the exam became difficult due to

increasing number of examinees. While at the beginning the GCE for grade 12 consisted of five subjects: English Language, Mathematics, General Science, Geography, and Ethiopian History and Civics, the ESLCE came by 1955 with additional subjects and included: Amharic, English, Mathematics, Biology, General Science, Chemistry, Physics, Geography, History, French, Geez, Economics, and Accounting (Chala & Agago, 2022 and Mamaru et al., 2023). The list of exam subjects changed further slightly in 1975 and 1991 following government and ideology changes (Alamneh, 2017 and Mamaru et al., 2023).

Though the exam format started to change by including partly multiple-choice items in some of the ESLCE subjects till 1966, it remained including the constructed-response items in all subjects until 1974 (Alamneh, 2017). To resolve the marking problem that was gaining weight due to the ever-increasing test takers population, the ESLCE abolished the partly essay type exam format in favour of total multiple-choice format in all subjects since 1977 (Alamneh, 2017). The reliance of the National exams on just the multiple-choice exam formats, despite resolving the marking difficulty by making the speedy and reliable machine marking possible, came up with additional exam malpractices in the examination halls. To manage this (while still maintaining the benefits of the objective type curriculum-based examinations) the exam development and administration body first introduced the parallel exam forms (4-booklets) approach in 1996 and shifted the exam centers from secondary high schools to university premises since 2022 (Alamneh, 2017; Chala & Agago, 2022; Mikre et al, 2023).

The Ethiopian University Entrance Examination (EUEE), as mentioned above, is a high-stakes test with multiple-choice item format where its score determines the future of students' academic life. So, it is exposed to multiple exam malpractices inside as well as outside of the examination room (Chala & Agago, 2022; Mikre et al., 2023). To combat some of the exam-room malpractices, the examination has been administered in four coded booklets of different reshuffling of item order. However, some research interventions inform that the position changes of items be considerate of such psychometric characteristics as item difficulty level (Anastasi & Urbina, 1997; Cronbach, 1990; Plake, 1980). But, in EUEE examinations are prepared by an independent body (namely, the Addis Ababa University's Institute of Educational Research) in line with subject structures. After the development process is completed, final examination booklets with four codes are made ready to be printed, published, administered, and scored under the responsibility of Educational Assessment and Examinations Service (EAES) (FDRE-Council of Ministers, 2012; Federal Democratic Republic Government of Ethiopia (FDRGE), 1994, sec. 3.3.7). Consequently, the item-position reshuffling to come up with a different exam booklet, shatters the arrangement based on item difficulty levels. Finally, the cutoff scores for test-takers to be admitted to higher education is decided by high stakeholders considering the universities' in-take capacities, gender, socio economic status of regions from where test-takers come, and disabilities. But when such decisions were made, no

reflections about item position effects and equivalence of scores with different exam booklets were made (AERA et al., 2014, European Federation of Psychologists Associations (EFPA) and European Association of Work and Organizational Psychologists (EAWOP), 2007). Colwell (2013) explains that when high-stakes decisions are based on the test scores obtained from such examinations, the issues item position must be addressed to ensure that tests provide fair representations of all students' abilities.

Despite such recommendations by testing experts and researchers (AERA et al., 2014), and while there are good practices in different countries (EFPA & EAWOP, 2007), in Ethiopia the University Entrance Examination results are understood as if there are no differences among test forms (Chala & Agago, 2022; Mikre et al., 2023). Even though these decisions are generally considered as fair, the judgmental fairness must be empirically questioned. In the case of the EUEE, which determines the future of hundreds of thousands of students every year, decisions must be based on meticulous considerations of position effects. Maybe in these exams, item position effects are considered to be minimized due to the non-systematic distributions of items in different booklets. However, such high-stakes decisions should not be left to general assumptions, instead searching for empirical evidences to what extent item position affects students' results and how much those are affecting decisions must be conducted.

Review of Related Literature

One of the test development principles repeatedly appearing in textbooks and examination guidance documents is to arranging test items in a systematic pattern in ascending order of difficulty (Anastasi & Urbina, 1997; Ollennu & Etsey, 2015; Opara & Ogbanu, 2023). The idea behind this is that if candidates answer the easier questions first and are successful, it will build their confidence and give them a mental boost, which will stimulate them, lower their exam anxiety, and promote more successful answers to the following difficult questions (Holzknecht et al., 2021; Mehrens & Lehmann, 1991). However, candidates who encounter the more difficult items first (descending order), especially in a timed test, may spend a lot of time on one specific question and not finish the test with the simpler items done. Also, researchers argued that fatigue and pressure to finish could account for poorer performance on easy items when they appear later in the test than when they appear earlier in the test (Hambleton & Traub, 1974; Wu et al., 2016). On the other hand, Hambleton and Traub (1974) explain that when test items are arranged in reverse order, difficult-to-easy order of items, a student with experience and expectation of the common order of items from easy-to-difficult encounters difficulty. When faced with difficult items at the beginning, the test taker expects even more difficult items at later stages and more stressful test situation. This might make test takers more anxious with the likely result that test performance would be adversely affected.

Items may also be placed in an inconsistent order (mixed order); this method involves placing difficult items throughout the test at specified intervals, and then followed by subsequently easier ones. The idea behind this method is that an ascending order technique disappoints the candidate when they encounter and attempt too many difficult items in a row. Consequently, they end up with not answering these items at all, guessing, and cheating on them, and this can't show the candidates' true ability on that trait (Ekele, 2002 as cited in Opara & Ogbanu, 2023).

However, different researchers found different results about the achievement score differences and psychometric nature of items in the examination booklets produced by item position changes. Many research findings suggested and cited that item arrangements significantly influenced test performance, but this influence occurs when the examination is administered at a speed test2 rather than a power test3 (Hambleton & Traub, 1974; Opara & Ogbanu, 2023; Plake, 1980). However, power tests have no practical significance, but some researchers suggest that easy-to-hard ordering is still preferable, citing student expectation as the rationale (Flaugher et al., 1966; Monk & Stallings, 1970; Plake et al., 1982). In multiple-choice items, MacNicol (1960 as cited in Plake, 1980) investigated the effects of changing an "easy-to-hard" arrangement to either hard-to-easy or a random arrangement. He found out that the hard-to-easy arrangement was significantly more difficult than the original easy-to-hard order while the random arrangement was not significantly different in their scores. This finding was argued by different scholars (Anastasi, 1976; Ollennu & Etsey, 2015; Plake, 1980; Plake et al., 1982; Shepard, 1994).

However, some researchers found no significant difference in performance when items were arranged according to easy-to-hard, hard-to-easy arrangement, or random order (Gerow, 1980; Ollennu & Etsey, 2015; Soyemi, 1980). Also, researchers discovered that different arrangements of items could affect performance adversely or positively depending on the levels and subjects in question. For instance, Ollennu & Etsey (2015) worked on English, mathematics, and Science subjects of the Basic Education Certificate Examination in Ghana, found significant differences in the performance of each subject. Also, the mean score on a mathematics test of a high school grade 11 course with items arranged in the order difficult-to-easy was significantly lower than the mean score on a test with the same items arranged in the order easy-to-difficult (Hambleton & Traub, 1974). But Nagy et al. (2018) found weak differences with Science, Mathematics, and reading tests of PISA 2016 analysis where the strongest effect was observed in the reading sections.. Flaugher et al. (1966) indicated that moderate rearrangement of items on the College Entrance Examination Board, Scholastic Aptitude Test was associated with significantly different test scores in the Verbal portions of the test but not in the Mathematical portions (Monk

[2] Time-restricted test
[3] Time unrestricted test

& Stallings, 1970). Even Abdullahi et al. (2020) in a college-level experiment on the subject of Mathematical-Economics course of randomized distribution of items had significantly greater achievement mean scores than easy to hard items order and no significant differences were observed. Also, Satti et al. (2019) noted that of 5th-year medical graduate examinations composed of form-A ordered according to the content sequences, form-D prepared in the reverse order of form-A, and the remaining B and C prepared in a randomized order. There were no statistical differences among the mean scores of the different forms (A, B, C, and D).

In the preceding literature review it has been observed that the research on item position effects was going on over the decades with experimental studies and based on high stake exam records (Abdullahi et al., 2020; Hambleton & Traub, 1974; Plake et al., 1982; Soysal & Kogar, 2021). In most of these studies, either comparison between systematically ordered item arrangements (easy-to-difficult and difficult-to-easy) or between ordered and disordered item arrangements (easy-to-difficult and moderately disordered or different clustering) were considered. Few of these studies considered high-stake international examinations such as PISA and TIMSS, in which item-position effects are already recognized (Wu et al., 2016) and such measures as booklet design are used to curb the negative effects (Hartig & Buchholz, 2012; Soysal & Kogar, 2021). However, the study of item-position effects in totally random and non-clustered item arrangements such as in the case of the EUEE are rare.

Even though recognizing item position effects in alternate forms of exam booklets and booklet designs are trusted to limit one or the other form of position effects, studies still show that individual and group differences in final scores are persisting (AERA et al., 2014; Hartig & Buchholz, 2012). In the Standards for Educational and Psychological Testing, AERA et al. (2014) suggest the need for the final score equating to make final judgments and use of examination results fair and defensible. Further, by way of establishing evidences for equating scores from alternate forms, the "Standards" recommends to make an appropriate choice from four alternate measures. These measures are:

1. administering the forms to be equated to the same sample of examinees or to equivalent samples;
2. administering alternate forms to equivalent samples, usually through random assignments;
3. administering a common set of items, referred to as anchor items, to the samples taking each form; or
4. use an external anchor test in which the anchor items are administered in a separate section and do not contribute to the total score on the test.

(AERA et al., 2014, p. 97-98)

In the case of EUEE, neither during exam development nor in publishing and administering processes that the existence of item position effects is recognized (Chala & Agago, 2022; Mikre et al., 2023). At the same time, when the high-stake decisions are made based on exam results, there are no evidence of measures to equate scores from alternate forms (AERA et al., 2014; Gregory, 2011; Zelman, 2013). Therefore, it is critical to conduct research on item position effects in the EUEE and present to educational and examination stakeholders about the existence and extent of effects of item position changes. Such research will not only contribute to the practical judgmental validity of the EUEE, but it also contributes to the literature bases by illuminating the status of item position effects in alternate forms with random item distribution (AERA et al., 2014; Hartig & Buchholz, 2012; Wu et al., 2016).

Purpose of the study

The purpose of this Study was to explore the effect of item position changes on the achievement scores of the Ethiopian University Entrance Examinations (EUEE) across selected subjects. Research has consistently shown that test item positioning can influence student performance, with early or late placement of items potentially affecting cognitive load, fatigue, and anxiety levels (Haladyna & Downing, 2004; Schweizer et al., 2017). In high-stakes exams like the EUEE, understanding the effect of item position is crucial, as it has implications for fairness, validity, and reliability of the test scores, which in turn impact university admissions decisions.

More specifically, the study sought to:

1. Identify whether significant item position effects exist among different test booklets for each of the five EUEE subjects (English, Mathematics, Biology, Chemistry, and Physics) when items are randomly distributed across versions.
2. Determine the extent to which item position changes influence test-takers' scores based on the booklet versions they received during the examination (e.g., Booklets 01, 02, 03, or 04).

Methods

Research Design

This study is exploratory ex-post facto design research aiming at determining if there were achievement differences in grade 12 students mean scores in the EUEE based on item positioning in different booklets of the same exam. And further, if item position effects are observed, the Study aims to estimate the extent of the effect on test-takers scores. For these purposes, the EUEE scores for five subjects were categorized by year and booklet groups and analyzed by comparing mean scores by quartets.

Data Source

For various analysis at national level, the National Examination Agency samples 21 public preparatory Schools (recently named high schools) based on proportionate stratified random sampling from nine federal regions and two city administrations (National Education Assessment and Examinations Agency [NEAEA], 2017). The same was taken in this Study. This resulted in 6,498 (Biology-2020) to 11,376 (English-2015) number of test-takers (student population), where the variation is depending on the type of subject. Six years of exam records for years 2015-2020 from NEAEA (recently named as Educational Assessment and Examinations Service, EAES) record were taken with permission from the organization. This resulted in 30 examinations (5 subjects per year) and 120 (4 booklets per exam) booklets. The examination subjects sampled in this study were: English, Mathematics, Biology, Chemistry, and Physics. These subjects were selected because, until recently 70% of student population was from natural science stream required to take these subject-examinations (Japan International Cooperation Agency (JICA), 2017; NEAEA, 2017; Teferra et al., 2018) and that makes the research give picture of the larger proportion of test takers. Care was taken to keep anonymous individuals whose scores were used in the study. For this purpose, the data received from EAES was with name codes for individuals and schools. In the Excel sheet from EAES, test takers' names (TestTaker) were replaced with such codes as TestT0001, TestT0002, … and similarly, schools names (School) was coded as SchC01, SchC02, … However, as the goal of the study was not about test takers and their schools, data analysis was not affected at booklets groups level.

Data Analysis

The first step in the analysis was to filter out scores of each subject by booklet code with their respective year. Even though there were four booklets (coded with Code-01, 02, 03, and 04 for analysis purpose) per examination for every subject and for every year, the EAES codes were retained when the data was exported to the SPSS for further statistical analysis. This helped in presenting analysis results as relevant to specific exam booklets in the final report. Applying descriptive statistics of mean, median, and standard deviations was important to see the score distributions of each coded booklet.

Before making the mean score comparison among booklets, which was the focus of the objectives of this Study, Spearman's rank-order correlations were used to see to what extent item distributions in the four booklets of an exam are different /similar with each other. This was important because of the assumption that item position effects would be minimized in random item distribution cases (AERA et al., 2014; Soysal & Kogar, 2021), in the cases of comparison of alternate forms with easy-to-difficult and difficult-to-easy item distributions, there is the least similarity (rho ~ 0.0).

To determine if there are statistically significant differences in students mean scores by booklets, one-way ANOVA was used. After finding the exams with significant mean score differences for the examinations from 2015-to-2020, the post-hoc analysis was used for pair-wise analysis and locating the statistically significant difference between pairs of booklets of an exam.

Finally, to address the second purpose of this research, that is to estimate to what extent test-takers are affected by the item-position effects, the pooled standard deviation was calculated for each exam pairs with significant mean differences observed in the post-hoc analysis. By dividing the mean difference by the pooled standard deviation of the respective pairs, the absolute mean differences were calculated. This absolute mean difference (in unites of pooled standard deviation) was used to estimate the population within the range between the mean and the absolute mean difference in the standard normal distribution for each exam pairs (Peck et al., 2008). This resulted in estimation of the proportion of test-takers who were affected by the item position effects.

Results

Relative item distributions among exam booklets

Inspection of the different exam booklets revealed that test items in booklets were not ordered according to test development principles advise, from list difficult to most difficult. Thus, instead of the ideal order in terms of items psychometric characteristics, when the item positioning in the four booklets of the same exam was considered, the relative order with respect to each other was considered. Thus, the first observation was made with EUEE exams by comparing the relative randomness of distributions of items in four booklets of the same exam

Table 1
Mean Spearman's rho for list and most item order randomization difference among booklets by subject ($p<0.01$)

Test	Year	N	Mean	STD
English	2016	120	0.9870	0.00539
	2018	120	0.9935	0.00269
Biology	2016	100	0.9725	0.00568
	2018	100	0.9653	0.00844
Chemistry	2018	80	0.9942	0.00383
	2019	80	0.9215	0.02188
Mathematic	2016	65	0.9918	0.00217
	2017	65	0.9043	0.04021
Physics	2017	50	0.5915	0.09700
	2019	50	0.8292	0.04366

(same year and same subject) using Spearman's rank-order correlation. Here in Table 1, the

mean of Spearman's rho for randomly selected two exams for each of the five subjects are presented. Revealed

As can be seen from the data in the table, the Spearman's rho varied from ρ_{min} =0.592 (SD=0.097) among Physics 2017 exam booklets to ρ_{max} =0.994 (SD=0.004) among Chemistry 2018 exam booklets. In addition, it could be observed from the data in Table 1 that except for Physics examinations, the item order differences for all the other cases were minimal (rho in very strong range). However, Physics exams showed moderate to strong item order differences (Schober, 2018) in the range of ρ_{min} =0.592 (SD=0.097) to ρ_{min} =0.829 (SD=0.044). Furthermore, there appeared to exist correlations between number of items and Spearman's rho. The correlation coefficient between number of items and Spearman's rho was found to be r=0.530 (p=0.008) which is in moderately strong range. This is to be expected as Spearman's coefficient increases with sample size.

The maximum item order randomization difference was observed between Physics 2017 exam booklets Code 69 and Code 70, with Spearman's rho of 0.318 ($p<0.05$), next between booklets Code 67 and Code 70 of the same exam with Spearman's rho of 0.574 ($p<0.01$). In general, the item order difference among booklets of this exam were the highest of all the 30 exams with mean rho 0.592 ($p<0.01$). On the other hand, the minimum observed randomization difference was between Chemistry 2018 exam booklets of Code 38 & 39, Code 38 & 40, and Code 39 & 40, all with Spearman's rho of 0.998 ($p<0.01$). The next were booklets from English 2018 between Code 22 & 23 and Code 23 & 24, with rho of 0.997 ($p<0.01$). In general, the coefficient rho was randomly distributed between rho of 0.318 for Physics 2017 and 0.998 for Chemistry 2018 exams. The only exceptionally different item order differences, as described above were among Physics 2017 which were in the range of weak to strong correlation (Schober et al., 2018). This means, even if the exam items were reordered in the different booklets of the same exam, the order differences were not that strong in many of them to expect significant achievement difference among test-takers (students) due to item position effects (AERA et al., 2014; Soysal & Kogar, 2021).

In general, there were no strong differences in items distributions among booklets of the same exam. Booklets inspections revealed that the items are not redistributed individually in a complete random fashion. Item groups (blocks) containing random numbers of items (between 1 to 7) are picked randomly and put at random positions in the different booklets. Therefore, some of the items kept their relative positions with respect to some of the item group members. Probably this was the reason for low observed randomization difference (or high Spearman's rho).

Mean scores and standard deviations of students' scores from 2015 to 2020

The main purpose of this research was to find out if the item order randomization differences among exam booklets had effect on students' achievement. To see this, the crude data received from NEAES (National Education Assessment and Examinations Service) data center was classified based on the booklets' codes and mean achievement scores for each subject and year were calculated by booklets. The item numbers in the six years in EUEE (Ethiopian University Entrance Examination) differ by subjects from 45 to 120. As mean scores were to be compared specific for subjects and years or examination, the item number difference from exam to exam, and/or from year to year did not matter in addressing the research objectives. The analysis result was based on row scores of 120 items in English, 80 items in chemistry, and 100 items in Biology. In Mathematics exams 65 items were used except in 2020 (61 items) and similarly in physics, 50 items were counted except 45 items in 2017. In table 2 on the next page, a sample of 10 exams (2 for each subject) are presented to show variability in students' mean achievement score from booklet to booklet. The full-length data that is used for analysis is found in Appendix A.

Inspection of Table 2 (and also Appendix A) show that the mean achievement scores populated the lower half of the ideal mean (50%) in every subject with more than 30% variability (SD>0.30 of mean). Only in the case of 11 exams (out of 30), that students mean scores were at or barely above the ideal mean. While in all of the English and Physics exams students mean scores were totally below the 50% mark, there was one Mathematics, four Chemistry, and six (all) biology exams in which the mean scores were found to be at or barely above the ideal mean. Besides, it was only in Biology 2019 and Chemistry 2019 that in the sample schools the maximum possible score was achieved.

The other observation that could be made from the data in Table 2 is that in most of the examinations the mean scores showed very little variations from booklet to booklet. With each of the 30 examinations analyzed in this study, there are 4 different booklets that make 6 independent booklet pairs. That means, the total 30 examinations constituted 180 pairs of booklets showing mean score differences between each other. However, if we just count those with mean differences greater than one point, there would be 39 pairs of booklets. That means, 21.67% of the booklet pairs showed more than 1 point mean score differences. In this respect, Biology Exams showed the largest number of mean differences between pairs of booklets with 15 out 36 booklet pairs. The other four subjects exhibited 5 mean differences of more than 1-point between 5 or 6 booklet pairs.

Table 2
Last two years' sample of students' mean scores and standard deviations (M(SD)) by booklet for same examinations

	Code 01	Code 02	Code 03	Code 04	Total	Max	Test-Teker
English 2019	42.32 (13.74)	41.7 (13.45)	43.04 (13.71)	42.09 (13.65)	42.28 (13.64)	98	10577
English 2020	52.47 (19.75)	52.96 (18.79)	53.15 (18.67)	54.12 (18.15)	53.17 (18.86)	110	9612
Math 2019	21.86 (8.13)	21.77 (7,77)	22.65 (7.85)	21.85 (8.21)	22.03 (8.00)	59	7012
Math 2020	31.01 (8.82)	31.72 (8.00)	30.95 (8.93)	28.66 (10.95)	30.62 (39.63)	58	6503
Biology 2019	51.01 (17.35)	51.77 (16.69)	51.47 (16.83)	50.72 (17.28)	51.25 (17.04)	100	7012
Biology 2020	52.66 (14.40)	52.65 (13.24)	53.41 (15.07)	54.34 (13.96)	53.24 (14.19)	94	6498
Chemistry 2019	36.52 (11.04)	36.74 (10.85)	36.20 (11.84)	35.51 (11.58)	36.26 (11.33)	80	7006
Chemistry 2020	46.13 (11.75)	45.59 (12.20)	41.02 (12.02)	43.03 (10.56)	43.99 (11.84)	74	6501
Physics 2019	17.78 (5.79)	17.40 (5.40)	17.38 (5.53)	17.28 (5.71)	17.47 (5.61)	46	7006
Physics 2020	22.59 (7.09)	24.63 (6.93)	23.62 (7.36)	25.06 (7.03)	23.95 (17)	45	6500

The largest mean score difference between booklets was observed in Chemistry 2020 exam. A 5.11 difference was observed between Code 35 and Code 37 booklets in Chemistry 2020 exam. In the same exam the second largest mean score difference was also observed between Code 36 and Code 37 booklets in Chemistry with mean score difference of 4.57. Still the same exam exhibited the third largest mean score difference of 3.09 between booklet Code 35 and Code 38. Apart from that exhibited by Chemistry 2020 exam, Mathematics 2020 exam booklets of Code

48 and Code 50, Physics 2020 booklets of Code 39 and Code 42, Biology 2015 booklets of Code 31 and Code 32, and English 2018 booklets of Code 22 and Code 23, showed maximum of mean score differences of 3.066, 2.474, 2.332 and 1.991, respectively.

Significance of Mean score differences among booklets of exams from 2015 to 2020

From the descriptive analysis it was observed that 39 (21.67%) out of a total of 180 EUEE exam booklet pairs exhibited more than 1-point mean score differences. 1-point minimum was arbitrarily taken to make sense of the extent of difference observed among different booklet pairs. However, all booklet pairs exhibited mean score differences ranging from a minimum of 0.014 to 5.109. Now the question is are these observed differences statistically significant to claim that students' achievements were affected by item positioning in different booklets.

After checking and confirming that all the group of data (by subject, year of examination, and booklets) satisfy the assumptions for ANOVA analysis, one-way ANOVA was used for statistical significance of mean score differences. The one-way ANOVA analysis showed that 21 out of 30 of the exams (70%) had statistically significant differences among the respective 4 booklets. However, the post-hoc analysis resulted in dropping of Physics 2018 exam score as

Table 3

ANOVA table for exams exhibiting statistically significant mean score difference in students' achievement scores between pairs of exam booklets (p=0.05)

	Exam	Item n	Test-taker N	Mean	Std. Dev.	Mean Diff.	df	F	Sig.
1.	English 2018	120	9840	51.58	15.32	1.157	3	8.706	0.000
2.	English 2019	120	10577	42.28	13.64	0.706	3	4.478	0.004
3.	English 2020	120	9612	53.17	18.86	0.860	3	3.245	0.021
4.	Math 2017	65	7778	24.00	8.86	0.405	3	4.820	0.002
5.	Math 2018	65	6623	27.02	8.58	0.607	3	5.543	0.001
6.	Math 2019	65	7012	22.03	8.00	0.445	3	4.684	0.003
7.	Math 2020	61	6503	30.62	9.63	1.543	3	30.563	0.000
8.	Biology 2015	100	8203	62.29	16.45	1.293	3	8.873	0.000
9.	Biology 2018	100	6621	56.22	14.92	0.980	3	4.713	0.003
10.	Biology 2020	100	6498	53.24	14.19	0.970	3	5.094	0.002
11.	Chemistry 2015	80	8200	45.488	11.67	1.202	3	13.473	0.000
12.	Chemistry 2016	80	7665	37.25	9.93	0.644	3	5.284	0.001
13.	Chemistry 2018	80	6624	42.21	12.37	1.109	3	9.547	0.000
14.	Chemistry 2019	80	7006	36.26	11.33	0.667	3	3.816	0.010
15.	Chemistry 2020	80	6501	43.99	11.84	2.980	3	67.648	0.000
16.	Physics 2015	50	8218	19.25	6.29	0.315	3	3.148	0.024
17.	Physics 2016	50	7659	21.37	6.98	0.314	3	2.707	0.044
18.	Physics 2017	50	7787	20.04	6.10	0.336	3	3.896	0.009
19.	Physics 2019	50	7006	17.47	5.61	0.254	3	2.742	0.042
20.	Physics 2020	50	6500	23.95	7.17	1.406	3	39.626	0.000

there was no statistically significant pairwise mean score differences among the 4 booklets, even-if the F-value (F(3,6626)= 2.883; p=0.034) was statistically significant. Therefore, in Table 3 below, the relevant descriptive statistics and ANOVA analysis for 20 (66.67%) of the exams are presented.

As can be seen from the table, 15 of the examinations (50%) have statistically significant test-takers' achievement mean score differences at less than 0.01 while only 5 of them (16.67%) showed difference at 0.05 significance level. As noted in the descriptive analysis, Chemistry 2020 examination is with the highest mean difference of 2.98 points (25.17% of the mean standard deviation). Like Chemistry, Physics exhibited significant differences in most of the exams (5 out of 6 exams), even if the mean differences among those booklets are as low as 0.25 points (4.53% of the mean standard deviation). This means, even if the mean differences are very small, there are chances that those differences are statistically significant and occur due to the difference in item position order in the different booklets. In terms of the frequency of statistically significant difference among exam booklets, next to Chemistry and Physics exams, Mathematics exhibited 4 out of 6 times, and English and Biology 3 times out of 6 exams.

Table 4
Pairwise comparison of mean score difference between booklets of the same exam showing significance of minimum and maximum ($p<0.05$)

Minimum significant difference			Maximum significant difference		
Exam	Booklet pairs	Mean Diff.	Exam	Booklet pairs	Mean Diff.
English 2018	Code 24 & 22	1.299	English 2018	Code 23 & 22	1.991
Math 2015	Code 16 & 15	0.707	Math 2020	Code 48 & 50	3.066
Biology 2015	Code 34 & 32	1.433	Biology 2015	Code 31 & 32	2.332
Chemistry 2019	Code 27 & 30	1.004	Chemistry 2020	Code 35 & 37	5.109
Physics 2019	Code 23 & 26	0.500	Physics 2020	Code 42 & 39	2.474

To identify where the significant mean score differences lie, post-hoc analysis was conducted. Table 4 presents the sample of exam booklet pairs with the minimum and maximum significant mean score differences. For detail analysis, see to the data in Appendix B. The post-hoc analysis revealed that out of 180 independent pairs of booklets, there were 44 (24.44%) pairs with statistically significant mean differences. As observed in the descriptive analysis and the one-way ANOVA analysis, still Chemistry exams were the leading pairs in significant mean score difference with 15 (41.67%) of the booklet pairs. Mathematics and physics followed Chemistry each with 9 (25%), and Biology with 6 (16.67%) of booklet pairs. English examination booklet pairs were with the least (5 or 13.89%) number of booklet pairs to show statistically significant mean score differences. This means nearly in a quarter of EUEE there were statistically significant achievement mean score differences among students due to item position differences among booklets.

On the other hand, Physics and mathematics occupied the two least mean score differences with 0.50 and 0.71, respectively. These differences are 8.9% for Physics and 8.3% for Mathematics of their respective mean standard deviations. In another extreme, Chemistry and Mathematics occupied the top two positions of mean score differences with 5.11 and 3.07, respectively. These are 43.15% for Chemistry and 31.84% for Mathematics of their respective mean standard deviations. These are very large differences.

Estimation of Proportions of test takers significantly affected by Item Position Changes

The second measure purpose of this research was to estimate to what extent test-takers are affected by the item-position effects. To address this purpose, after identifying the exam pairs with significant mean differences, the mean differences were calculated in terms of the pooled standard deviation units. This absolute mean difference was used to estimate the population within the range between the mean and the absolute mean difference in the standard normal distribution for each exam pairs (N=44, 24.44%). Table 5 presents the maximum and minimum mean score differences by subject, and the mean population proportion with significant item position effects by subject and overall mean. The detail of the population proportion estimate is presented in Appendix B along with other relevant data.

Table 5
Estimation of the proportion of the test-taker population with minimum and maximum IP effects ($p<0.05$)

	Exam	Booklet pairs	Mean Diff.	Absolute Diff.	Population Proportion (%)	Sig. (p)
Minimum	English 2018	Code 22 & 24	1.299	0.0916	3.59	0.016
Maximum	English 2018	Code 22 & 23	1.991	0.1269	4.97	0.000
	Average	5 (13.89%)	1.656	0.1012	3.94	
Minimum	Math 2015	Code 15 & 16	0.707	0.0811	3.18	0.036
Maximum	Math 2020	Code 48 & 50	3.066	0.2996	11.6	0.000
	Average	9 (25.00%)	1.462	0.1581	6.16	
Minimum	Biology 2015	Code 32 & 34	1.433	0.0850	3.19	0.029
Maximum	Biology 2015	Code 31 & 32	2.332	0.1432	5.57	0.000
	Average	6 (16.67%)	1.866	0.1206	4.64	
Minimum	Chemistry 2019	Code 27 & 30	1.004	0.0909	3.58	0.044
Maximum	Chemistry 2020	Code 35 & 37	5.109	0.4300	16.64	0.000
	Average	15 (41.67%)	2.153	0.1843	7.22	
Minimum	Physics 2019	Code 23 & 26	0.500	0.0869	3.38	0.042
Maximum	Physics 2020	Code 39 & 42	2.474	0.3504	13.68	0.000
	Average	9 (25.00%)	1.1251	0.1641	6.36	
	Grand mean	44 (24.44%)	1.698	0.157	6.10	

As it can be observed from Table 5, there is a mean population proportion of 6.10% with a mean difference of 1.698 (15.7% of mean standard deviation). A simple statistical analysis (with normal distribution) shows that a one-standard deviation changes from the mean results in 34.1% change in the population and a half- standard deviation change from the mean results in 19.1% change (Peck et al., 2008). Further it can be observed from the data in table 5, that the item position effect is the strongest in Chemistry, with 16.64% affected population proportion for 0.43Std ($p<0.001$) absolute mean difference in mean score. This occurred in Chemistry 2020 examination for booklet pairs Code 35 and 37. This means, up to 16.64% of the test takers in EUEE could be either unfairly lost or unfairly advantaged just by the booklet they were examined with due to item position effects. In this case, Mathematics and Biology seem to be with the minimum population proportion to be affected with item position effects. The minimum proportion for Mathematics was 3.18% ($p=0.036$) and for Biology 3.19% ($p=0.029$). However, it is in English EUEE exams that the least mean population (3.94%) that was observed with minimal item position effect, while chemistry (with 15 out of 36 (41.67%) of the exam booklet pairs that demonstrated the maximum population proportion of exam takers at 7.22% mean population proportion.

Discussions

The main purpose of this research is to find out in EUEE (Ethiopian University Entrance Examination) if there are test-takers achievement mean score differences among different exam booklets. Furthermore, the study aimed at estimating the proportion of exam takers who would be affected by item position effects, if a significant achievement mean scores were observed. To address these objectives, there was a secondary question to raise: how significantly were the booklets of the same exam differing from each other? In EUEE, there were four booklets per exam containing the same items but in different orders. Therefore, to answer the question, the extent of difference in item positions were statistically determined. Unlike in other studies on the effect of exam item position on students (test-takers) performance (Ollennu & Etsey, 2015; Pettijohn & Sacco, 2007), the items in the EUEE were not ordered based on any assessment logic. By inspection of exam booklets from the sample of EUEE between 2015-to-2020, it was observed that the production of alternate booklets resulted in high similarity in item positioning. With spearman's correlations analysis it was found that all of the 180 booklet pairs, except one pair of Physics 2017 exam where those were with more than moderate similarity (Schober et al., 2018), all of the exams exhibited more than strong similarity of item distributions.

Due to the high degree of similarity between booklets and the lack of order based on test construction principles in the random item distribution case of EUEE, it was unlikely to find achievement differences among test-takers due to item position differences. Even if those differences appear, their magnitudes would not be as large as observed in other similar studies

(for example in Ollennu & Etsey, 2015 and Opara & Ogbanu, 2023). Added to that, researchers suggested that random item distribution may minimize the item position effects (AERA et al., 2014; Soysal & Kogar, 2021; Wu et al., 2016), implied that the likelihood of finding significant mean score differences based on booklet differences is minimized. However, the results in this research contradicted the consensus among researchers in the likelihood of occurrence and in significance of the difference.

After observing that for majority of the EUEE examinations from 2015 to 2020 were not exhibiting strong difference of item positioning patterns, the data was analysed to address the main research purpose. It was observed that 66.67% (20 out of 30) of the exams showed statistically significant mean score difference based on booklet differences in item arrangement. In contrast to the mean score differences observed in other previous researches (for example Alakayleh, 2017; Ollennu & Etsey, 2015), the magnitudes of the mean difference observed in the current study appeared small. As the number of items per exam differs from subject to subject (from about 50 to 120), the small mean differences could not be compared meaningfully, even though those are statistically significant. However, by using the standard deviation as a unit of measure of the mean difference, it was observed that the absolute mean difference varies between 0.0811 (for Mathematics 2015 exam) to 0.4300 (for Chemistry 2020 exam). Therefore, from this result we can see that the item position effect is contributing to such strong differences in students (test-takers) achievement scores in the EUEE.

This is significant not only to the local practical context, but the result in a way confirms the general findings in other researches (Alakayleh, 2017; Hartig & Buchholz, 2012; Ollennu & Etsey, 2015; Soysal & Kogar, 2021; Wu et al., 2016). Even though many of the previous studies on item-position effects were by comparing alternate exam forms (booklets) with systematic item arrangements (for example by Abdullahi et al., 2020 and Alakayleh, 2017), and sometimes with a different purpose such as analysis of performance persistence of test-takers throughout a test (for example by Soysal & Kogar, 2021, Wu et al., 2016), all asserted that test-takers performances are significantly affected by item positioning. The result in this Study further illuminates the case of exam booklets with non-systematic (or random) item arrangements in which case research is scares and the assumption is item position effects to be minimized by random item arrangements (AERA et al., 2014).

The difference in mean score of students is not unique to specific subject instead it was observed in 20 out of 30 examinations investigated in this research with all the five subjects. As discussed above, this was unexpected to occur among booklets which have so high degree of similarity in item ordering. In similar studies so far (Alakayleh, 2017, Ollennu & Etsey, 2015, Opara & Ogbanu, 2023) the comparisons were between a random and either easy-to-difficult or difficult to easy item sequencing. Therefore, even if the number of items in general are less than the

number of items in any of the EUEE exams, the difference in item ordering were very high (either rho= –1 or very close to zero). But, in the current Study, it was found that none of the booklets were sequenced according to psychometric characteristics and yet the random sequencing in the different booklets did not result in significant differences among them. In contrast to this, statistically significant achievement differences were found in 66.67% of the exams.

The disparity observed between the mean score differences among exam booklets and the high degree of similarity among the booklets is a fundamental finding. So far research on this issue was focused on the difference in item ordering (Alakayleh, 2017, Baffoe, 2021, Ollennu & Etsey, 2015, Opara & Ogbanu, 2023, Pettijohn, & Sacco, 2007). However, the finding in the current study is suggestive of the existence of a more profound factor other than mere reordering of items in exam booklets resulting in a significant difference in students (test-takers) achievement. This requires probably a more complex analysis of the data at item levels.

In addition to investigating the existence of item position effects in the EUEE, this Study also attempted to estimate the population proportion of exam takers affected by the position effects. It was found that in between 3.1 up to 16.64% of test takers were affected by item position effects with examinations in different years and subjects. Furthermore, it was observed that position effects were varying from year to year by subject. While the effect was minimal but significant for English examinations with 3.94%, it was Chemistry with the highest affected population size with mean of 7.22%. In many of the item-position effects studies, the magnitude of the impact on test-takers were not reported except the consensus that it has significant effect on students' performance (Hartig & Buchholz, 2012; Ollennu & Etsey, 2015; Wu et al., 2016). However, fairness is one of the major principles of assessment (AERA et al., 2014; EFPA & EAWOP, 2007). Therefore, at least in reporting high-stake exam results, the item position effects and those who would be affected by it should be reported (AERA et al., 2014; Soysal & Kogar, 2021; Wu et al., 2016).

Except in chemistry exams, the achievement mean score differences among booklets do not look that much alarming. For many of the examinations the mean score differences were by about 1 and 2 points. However, when these differences were converted to absolute difference (by comparing with the standard deviation) those results become more meaningful. The alarming face of the item position effects became apparent when it is translated to victims count. In this study it was observed that overall, 6.10% of test-takers were disadvantaged by taking one of the exam booklets and not the other one. In the latest Educational Statistics Annual Abstract (Federal Ministry of Education, 2023) the total number of students who registered for the EUEE were 845,099 out of which 356,878 were from Natural Science stream. Natural Science stream students take these five subjects in the EUEE. Therefore, the mean effect obtained in this study

(6.10%) means well above 21,700 students (test-takers) are affected by item position effects. When this is compared with the number of students who have scored more than 50% in EUEE and said to have possessed to higher education last year, that is 22,974 (6.8%) (Federal Ministry of Education, 2023), judgement based on EUEE is unfair to such large proportion of students and put the judgemental validity in question (AERA et al., 2014; EFPA & EAWOP, 2007; Wilson, 2023).

Conclusions and Recommendations

Conclusions

The main purpose of this exploratory ex-post facto research was to find out if there were mean achievement score differences between test-takers depending on which of the exam booklet (01, 02, 03, or 04) they were tested within the subjects: English, Mathematics, Biology, Chemistry, and Physics. The results are that while direct inspection of a set of booklets for an exam showed item position differences, these differences were not statistically significant; majority of the exams in all of the five subjects exhibited significant achievement mean score differences regardless of insignificant differences in item ordering among exam booklets; and significant number of students are affected by the booklet based mean score differences. Therefore, it has been concluded that the observed differences are strong enough to raise questions about the fairness of the EUEE, which puts at a serious disadvantage on average up to 6.10% of test-takers (in tenths of thousands) just due to which exam booklets they were tested with.

Recommendations

In this study it was found that item reordering is consequential to test-takers while assessment authorities are warning exam developers against malpractices with respect to assessment fairness (AERA et al., 2014; EFPA & EAWOP, 2007; Wilson, 2023). In order to maintain exam fairness, the Standards for Educational and Psychological Testing (AERA, et al., 2014), recommends that "Tests and testing programs should be designed and developed in a way that supports the validity of interpretations of the test scores for their intended uses" (pp. 85). Furthermore, the authors of the Standards emphasize that "Fairness is a fundamental validity issue and requires attention throughout all stages of test development and use." (pp. 49). Mark Wilson (2023), in relation to test items, declared that "The fundamental fairness requirement of the items design is that, across important subgroups, items function in a similar way for respondents who are at the same [ability] location" (pp. 239). Despite the fact that random item distribution is implied as a factor minimizing item-position effects by such assessment authorities as AERA et al, (2014), strong effect has been observed in this study. This anomalous finding may suggest further and deeper investigations into the nature and behavior of the items in such high-stake tests and test-takers behaviors (Hartig & Buchholz 2012; Soysal & Kogar,

2021; Wu et al., 2016). Thus, for high-stake examinations such as EUEE, in order to address the requirements of the fundamental principle of validity and fairness:

1. Examination (test) development experts (such as those in EAES) be aware of the existence of test takers performance variations due to construct irrelevant factors such as item position changes as observed in this and many other studies. There are many alternative ways of addressing the issue recommended by researchers and assessment authorities to minimize the effect (AERA et al., 2014; Wu et al., 2016). Thus it is professional responsibility of test developers to get familiar with nature of the issue and the suggested measures so that appropriate decisions will be taken to make the EUEE fair and valid.

2. Exam developers, responsible for production of alternate exam booklets, either have to look for other ways of producing alternate tests or practice great caution, should they still use the option of item reordering to curb the exam room malpractice (Mehrens & Lehmann, 1991; Ollennu & Etsey, 2015). Exam development experts (as those in EAES) should be aware of the findings in this study showed that even the insignificant reordering in different booklets put a significant number of test-takers at a serious disadvantage.

3. In the current understanding of validity, validity is in the final argument based on assessment products. Among other things, in high-stake examinations individuals' fates are determined based on test-takers scores. Faulty interpretation of assessment results, lead to unfair judgments by exam result users (AERA, et al., 2014, Colwell, 2013) and victimizes individuals. Therefore, exam result publishers and users should identify the existing exam inconsistencies and apply compensatory approach for the disadvantaged groups by such effects as item positions. Furthermore, result publishers should organize and document evidences about the fairness, reliability and validity of exam results to support decision processes about individuals and systems.

4. While majority of research in this area of high-stake assessment is focused on the effects of item reordering (item positioning) on various students learning outcomes, the causes why item position effects occur were not studied. What is in the nature or characteristics of items that is resulting in change in their functioning in different test forms need to be studied to come up with effective measures against item position effects. However, in the current research indicative result about the seriousness of the problem beyond mere item reordering was found. Therefore, further research should be continued in determining the hidden variables and the extent of their effects in test takers achievements results due to alternate tests with or without item positioning.

5. Many of the studies referred to in this study revealed that item-position effects are not the only factors contributing to individual performance differences in such high-stake examinations. Therefore, research in this area should be extended to determining the particular contribution of item-position effects among other factors.

Limitation of the study

Having noted the extent to which item position effects can be, the result here has to be moderated by paying attention to the limitations of the study. Item position researchers acknowledge several factors contributing to achievement differences beside item position effects (Hartig & Buchholz 2012; Soysal & Kogar, 2021, Wu et al., 2016). However, in this study only item position effect was considered as factor behind the observed achievement mean score differences between test takers with different booklets. Thus, the present result should be taken as strong evidence of the existence of item position effects to the extent to challenge the fairness of test results but, the exact determination of the extent has to be further researched by taking into account other variables impacting achievement differences (AERA et al., 2014; Soysal & Kogar, 2021, Wu et al., 2016).

Even though we observed the existence of achievement differences based on exam booklets over all of test subjects in this study, we did not study the relationship between the pattern of achievement mean score difference and subject matter. This was partly due to the limited number of years of examination data we secured and exclusion of those subjects other than Natural Science fields in the high schools. Besides, other than working on the data, the EAES experts responsible for the EUEE preparation, administration, marking and publishing were not contacted to secure critical information about the development of the exam booklets and nature and process of high-stake decisions based on students' achievement scores in EUEE.

Acknowledgment

The researchers in this study are grateful to the officials of the EAES for having trust on us, independent researchers, and allow us to use the national data. We are also indebted to them for preparing and delivering the data based on the sampling areas presented. Also, our thanks go to members and experts of the EAES, giving supporting documents for analysis of this research.

References:

Abdullahi, G. S., Vincent, P., & Akwashiki, A. G. (2020). Effect of changes in item-sequence on students' academic achievement in multiple-choice test of mathematical-economics in colleges of education, Lagos State Nigeria. World Journal of Innovative Research, 9(4), 69–76. https://www.wjir.org/download_data/WJIR0904032.pdf

Alakayleh, A. S. (2017). Could different Items arrangements affect 10th grade students ' performance in multiple-choice tests in Maths , Science , and English language final exams. *Journal of Education and Practice*, *8*(17), 180–187. https://www.iiste.org/Journals/index.php/JEP/article/view/37481

Alamneh, A. (2017). National/Public Examination, Assessment in Focus, Bi-annual Publication of the Testing Center, 7(1), 5–10. http://repository.smuc.edu.et/bitstream/123456789/3047/1/assessement%20in%20focus.pdf

American Educational Research Association [AERA], American Psychological Association, & National Council on Measurement in Education. (2014). *STANDARDS for Educational and Psychological Testing*. Joint Committee on Standards for Educational and Psychological Testing (U.S.). American Educational Research Association. https://www.testingstandards.net/uploads/7/6/6/4/76643089/9780935302356.pdf

Anastasi, A. (1976). *Psychological Testing* (4th ed.). Macmillan publishing Co., Inc.

Anastasi, A., & Urbina, S. (1997). *Psychological Testing* (7th ed.). Prentice-Hall, Inc.

Baffoe, J. (2021). *Effects of Item Sequencing in Multiple-Choice Tests on Senior High School Students' Academic Performance In The Kumasi Metropolis: The Moderating Role of Gender*. (Unpublished MPhil thesis, University of Cape Coast). https://ir.ucc.edu.gh/xmlui/handle/123456789/7345

Brennan, R. L. (2013). Commentary on "Validating the interpretations and uses of test scores." *Journal of Educational Measurement*, *50*(1), 74–83. https://doi.org/10.1111/jedm.12001

Chala, L., & Agago, M. (2022). Exploring national examination malpractice mechanisms and countermeasures: An Ethiopian perspective. *International Journal of Instruction*, *15*(3), 413–428. https://doi.org/10.29333/iji.2022.15323a

Carlson, J. L., & Ostrosky, A. L. (1992). Item sequence and student performance on multiple-choice exams: Further evidence. *Journal of Economic Education*, *23*(3), 232–235. https://doi.org/10.2307/1183225

Colwell, N. M. (2013). Test anxiety, computer-adaptive testing and the Common Core. *Journal of Education and Training Studies*, *1*(2), 50–60. https://doi.org/10.11114/jets.v1i2.101

Cronbach, L. J. (1990). *Essentials of Psychological Testing* (5th ed.). Harper Collins Publishers, Inc.

European Federation of Psychologists' Associations [EFPA], & European Association of Work and Organizational Psychologists [EAWOP]. (2007). *European test user standards for test use in work and organizational settings* (Version 1.92). http://www.eawop.org/uploads/datas/10/original/European-test-user-standards-v1-92.pdf

FDRE-Council of Ministers. (2012, January 26). National Educational Assessment and Examination Agency Establishment, Council of Ministers Regulation No.260/2012. *Federal Negarit Gazette*, *15*, 6289–6294.

Federal Democratic Republic Government of Ethiopia (FDRGE). (1994). *Education and Training Policy* (1st ed.). St. George printing Press.

Federal Ministry of Education (2023). Education Statistics Annual Abstract 2022/23 (2015E.C.). Education Management Information System (EMIS) and ICT Executive Office, MOE. https://moe.gov.et/storage/Books/ESAA-2022/23_2015E.C.pdf

Flaugher, R. L., Melton, R. S., & Myers, C. T. (1966). *A study of the effects of item rearrangement* (Research Bulletin No. RB-66-31). Educational Testing Service.

Frey, B. B. (Ed.). (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation* (Vols. 1–4). SAGE Publications. https://us.sagepub.com/en-us/nam/the-sage-encyclopedia-of-educational-research-measurement-and-evaluation/book245469

Gregory, K. (2011). *National examinations: General Education Quality Improvement Program Ethiopia, 2011* [Unpublished report]. Ministry of Education, Ethiopia.

Gerow, J. R. (1980). Performance on achievement tests as a function of the order of item difficulty.

Teaching of Psychology, 7, 93 – 96.

Haladyna, T. M., & Downing, S. M. (2004). Constructing multiple-choice items to measure higher-order thinking. *Assessment & Evaluation in Higher Education, 29*(2), 153–163. https://doi.org/10.1080/0260293042000188455

Hambleton, R. K., & Traub, R. E. (1974). The effects of item order on test performance and stress. *The Journal of Experimental Education*, *43*(1), 40–46. https://doi.org/10.1080/00220973.1974.10806302

Hartig, J., & Buchholz, J. (2012). A multilevel item response model for item position effects and individual persistence. *Psychological Test and Assessment Modeling*, *54*(4), 418–431. https://www.psychologie-aktuell.com/fileadmin/download/ptam/4-2012_20121224/06_Hartig.pdf

Holzknecht, F., McCray, G., Eberharter, K., Kremmel, B., Zehentner, M., Spiby, R., & Dunlea, J. (2021). The effect of response order on candidate viewing behaviour and item difficulty in a multiple-choice listening test. *Language Testing*, *38*(1), 41–61. https://doi.org/10.1177/0265532220917316

Japan International Cooperation Agency (JICA). (2017). Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education in the Federal Democratic Republic of Ethiopia (LAMS).

Kellaghan, T., & Greaney, V. (2019). *Using assessment to improve the quality of education*. UNESCO International Institute for Educational Planning. https://unesdoc.unesco.org/ark:/48223/pf0000126231

Mamaru, A., Getachew, E., & Tafese, D. (2023). Historical Development of National Examination in Ethiopia - 1946 to 2023. J*ournal of educational assessment and examinations,* 1(1), 84 – 122.

Mehrens, W. A., & Lehmann, I. J. L. (1991). *Measurement and Evaluation in Education and Psychology* (4th ed.). Wadsworth/Thomson Learning.

Mikre, F., Getachew, K., Amsale, F., Belay, A., Ferede,T., Workeneh, N., Jibat, N., Worku, A., Abafita7, J., Tilahun, G., & Nigussie, B. (2023). First University-based Grade 12 National Examination Management in Ethiopia: Challenges Encountered. *Ethiopan Journal of Education & Science, 19*(1), 50-64. https://journals.ju.edu.et/index.php/ejes/article/view/5278

Monk, J. J., & Stallings, W. M. (1970). Effects of item order on test scores. *The Journal of Educational Research*, *63*(10), 463–465. https://doi.org/10.1080/00220671.1970.10884067

Nagy, G., Nagengast, B., Frey, A., Becker, M., & Rose, N. (2019). A multilevel study of position effects in PISA achievement tests: Student- and school-level predictors in the German tracked school system. *Assessment in Education: Principles, Policy & Practice*, *26*(4), 422–443. https://doi.org/10.1080/0969594X.2018.1449100

National Education Assessment and Examinations Agency [NEAEA]. (2017). *Ethiopian Third National Learning Assessment of Grade 10 and 12 Students Achievement (ETNLA).* http://www.oecd.org/pisa/pisaproducts/44455820.pdf

Ollennu, S. N. N., & Etsey, Y. K. A. (2015). The impact of item position in multiple-choice test on student performance at the Basic Education Certificate Examination (BECE) level. *Universal Journal of Educational Research*, *3*(10), 718–723. https://doi.org/10.13189/ujer.2015.031009

Opara, I. M., & Ogbanu, G. I. (2023). Effect of item order on the reliability of mathematics test among secondary school students in Rivers State. *Journal of Advances in Education and Philosophy*, *7*(11), 460–466. https://doi.org/10.36348/jaep.2023.v07i11.003

Peck, R., Olsen, C., & Devore, J. (2008). *Introduction to statistics and data analysis* (3rd ed.). Thomson Brooks/Cole.

Pettijohn II, T. F., & Sacco, M. F. (2007). Multiple-choice exam question order influences on student

performance, completion time and perceptions. *Journal of Instructional Psychology*, *34*(3), 142–149. https://psycnet.apa.org/record/2007-15457-010

Plake, B. S. (1980). Item Arrangement and Knowledge of Arrangement on Test Scores. *The Journal of Experimental Education*, *49*(1), 56–58. https://eric.ed.gov/?id=EJ239594

Plake, B. S., Ansorge, C. J., Parker, C. S., & Lowry, S. R. (1982). Effects of item arrangement, knowledge of arrangement, test anxiety, and sex on test performance. *Journal of Educational Measurement*, *19*(1), 49–57. https://doi.org/10.1111/j.1745-3984.1982.tb00114.x

Satti, I., Hassan, B., Alamri, A., Khan, M. A., & Patel, A. (2019). The effect of scrambling test item on students' performance and difficulty level of MCQs test in a College of Medicine, KKU. *Creative Education*, *10*(8), 1813–1818. https://doi.org/10.4236/ce.2019.108130

Schober, P., Boer, MM., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. *Anesthesia & Analgesia*, *126*(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

Schweizer, K., Troche, S. J., & Rammsayer, T. H. (2017). Item sequencing in tests of cognitive abilities: Impact on test scores and psychometric properties. *Psychological Test and Assessment Modeling*, 59(2), 157-175.

Shepard, L. A. (1994). *The Challenges of Assessing Young Children Appropriately*. *76*(3), 206–212. https://eric.ed.gov/?id=EJ492843

Soyemi, M. O. (1980). Effect of item position on performance on multiple-choice tests. Unpublished M.Ed. dissertation, University of Jos.

Soysal, S., & Koğar, E. Y. (2021). An investigation of item position effects by means of IRT-based differential item functioning methods. *International Journal of Assessment Tools in Education*, *8*(2), 239–256. https://doi.org/10.21449/ijate.779963

Teferra, T., Asgedom, A., Oumer, J., Tassew, W., Aklilu, D., & Berhannu, A. (2018). Ethiopian Education Development Roadmap (2018-30): An Integrated Executive Summary. Ministry of Education, Education Strategy Center.

Wilson, M. (2023). *Constructing measures: an item response modeling approach*, (2nd Ed.). Routledge. https://doi.org/10.4324/9781003286929

Wu, Q., Debeer, D., Buchholz, J., Hartig, J., & Janssen, R. (2019). Predictors of individual performance changes related to item positions in PISA assessments. *Large-scale Assessments in Education*, *7*(5), 1–21. https://doi.org/10.1186/s40536-019-0073-6

Zelman, M. (2013). Scoping Study for Item Bank Development: General Education Quality Improvement Program Study. In *General Education Quality Improvement Program*.

Appendices

Appendix A

Students' mean scores and standard deviations (M(SD)) by booklet for same examinations

	Code 01	Code 02	Code 03	Code 04	Total	Max	Test-Teker
English 2015	53.12 (16.87)	53.72 (15.97)	52.68 (15.81)	53.5 (15.98)	53.26 (16.17)	105	11376
English 2016	49.78 (15.51)	49.9 (15.53)	50.1 (15.41)	49.75 (15.69)	49.88 (15.53)	97	11183
English 2017	46.01 (15.08)	45.36 (14.44)	45.57 (14.81)	45.33 (13.73)	45.57 (14.53)	96	11337
English 2018	51.01 (15.39)	50.68 (13.96)	52.67 (17.26)	51.98 (14.41)	51.58 (15.32)	105	9840
English 2019	42.32 (13.74)	41.7 (13.45)	43.04 (13.71)	42.09 (13.65)	42.28 (13.64)	98	10577
English 2020	52.47 (19.75)	52.96 (18.79)	53.15 (18.67)	54.12 (18.15)	53.17 (18.86)	110	9612
Math 2015	25.12 (8.91)	25.83 (8.51)	25.42 (8.37)	25.5 (8.31)	25.46 (8.54)	54	8212
Math 2016	29.68 (1o.87)	30.00 (11.04)	30.23 (11.15)	29.81 (11.26)	29.93 (11.08)	61	7667
Math 2017	24.48 (8.74)	24.12 (8.86)	23.44 (9.02)	23.9 (8.79)	24.00 (8.86)	59	7778
Math 2018	26.95 (8.68)	27.67 (8.68)	26.47 (8.27)	26.98 (8.72)	27.02 (8.58)	61	6623
Math 2019	21.86 (8.13)	21.77 (7,77)	22.65 (7.85)	21.85 (8.21)	22.03 (8.00)	59	7012
Math 2020	31.01 (8.82)	31.72 (8.00)	30.95 (8.93)	28.66 (10.95)	30.62 (39.63)	58	6503
Biology 2015	63.13 (15.08)	60.8 (17.43)	62.99 (16.93)	62.23 (16.22)	62.29 (16.45)	96	8203
Biology 2016	59.91 (15.98)	60.54 (15.46)	60.76 (15.54)	60.57 (15.54)	60.44 (15.63)	94	7662
Biology 2017	60.28 (17.28)	59.77 (18.10)	59.99 (17.99)	59.19 (16.86)	59.82 (17.57)	94	7773
Biology 2018	57.27 (15.5)	55.41 (14.27)	56.23 (14.83)	55.94 (14.99)	56.22 (14.92)	89	6621
Biology 2019	51.01 (17.35)	51.77 (16.69)	51.47 (16.83)	50.72 (17.28)	51.25 (17.04)	100	7012
Biology 2020	52.66 (14.40)	52.65 (13.24)	53.41 (15.07)	54.34 (13.96)	53.24 (14.19)	94	6498
Chemistry 2015	44.54 (11.68)	45.70 (10.82)	46.71 (12.29)	45.02 (11.77)	45.49 (11.67)	74	8200
Chemistry 2016	36.59 (10.19)	37.26 (9.63)	37.83 (9.90)	37.38 (9.95)	37.25 (9.93)	67	7665
Chemistry 2017	40.99 (12.26)	41.26 (13.03)	41.59 (12.54)	41.60 (12.10)	41.35 (12.49)	70	7776
Chemistry 2018	41.50 (12.11)	41.72 (12.80)	43.59 (12.46)	42.11 (12.01)	42.21 (12.37)	71	6624
Chemistry 2019	36.52 (11.04)	36.74 (10.85)	36.20 (11.84)	35.51 (11.58)	36.26 (11.33)	80	7006
Chemistry 2020	46.13 (11.75)	45.59 (12.20)	41.02 (12.02)	43.03 (10.56)	43.99 (11.84)	74	6501
Physics 2015	19.4 (6.43)	19.11 (6.19)	18.98 (6.14)	19.51 (6.39)	19.25 (6.29)	43	8218
Physics 2016	21.02 (7.15)	21.57 (6.86)	21.57 (7.04)	21.33 (6.84)	21.37 (6.98)	45	7659
Physics 2017	19.82 (6.01)	20.35 (6.26)	20.18 (6.19)	19.8 (5.92)	20.04 (6.10)	41	7787
Physics 2018	20.86 (6.39)	20.90 (6.27)	20.87 (6.04)	20.35 (6.07)	20.75 (6.20)	42	6630
Physics 2019	17.78 (5.79)	17.40 (5.40)	17.38 (5.53)	17.28 (5.71)	17.47 (5.61)	46	7006
Physics 2020	22.59 (7.09)	24.63 (6.93)	23.62 (7.36)	25.06 (7.03)	23.95 (17)	45	6500

Appendix B

Estimation of proportion of test-takers to be affected by Item Position Changes

Subject	Year	Booklet Code (I)	Booklet Code (J)	Mean Diff. (I-J)	Std. Error	Sig.	Pooled Std	Absolute Diff.	Populatio n Diff.	Test-Taker		Standard Deviation	
										N(I)	N(J)	SD(I)	SD(J)
English	2018	Code 21	Code 23	1.664*	0.435	0.001	16.34	0.1018	3.98	2513	2441	15.39	17.26
5(13.89%)	2018	Code 22	Code 23	1.991*	0.437	0.000	15.69	0.1269	4.97	2472	2441	13.96	17.26
	2018	Code 22	Code 24	1.299*	0.438	0.016	14.18	0.0916	3.59	2472	2414	13.96	14.41
	2019	Code 12	Code 13	1.337*	0.375	0.002	13.58	0.0985	3.78	2674	2619	13.45	13.71
	2020	Code 51	Code 54	1.656*	0.544	0.012	18.98	0.0872	3.38	2443	2363	19.75	18.15
Mathematics	2015	Code 15	Code 16	0.707*	0.262	0.036	8.72	0.0811	3.18	2162	2074	8.91	8.51
9(25.00%)	2017	Code 59	Code 61	1.048*	0.282	0.001	8.88	0.1181	4.57	2036	1921	8.74	9.02
	2018	Code 26	Code 27	1.204*	0.298	0.000	8.44	0.1427	5.57	1682	1630	8.6	8.27
	2019	Code 15	Code 17	0.791*	0.268	0.017	8.00	0.0989	3.78	1826	1722	8.13	7.85
	2019	Code 16	Code 17	0.885*	0.27	0.006	7.81	0.1133	4.38	1778	1722	7.77	7.85
	2019	Code 17	Code 18	0.804*	0.274	0.018	8.03	0.1001	3.98	1722	1686	7.85	8.21
	2020	Code 47	Code 50	2.358*	0.337	0.000	9.89	0.2384	9.29	1700	1540	8.82	10.95
	2020	Code 48	Code 50	3.066*	0.339	0.000	10.23	0.2996	11.6	1655	1540	9.52	10.95
	2020	Code 49	Code 50	2.297*	0.341	0.000	9.97	0.2304	9.09	1608	1540	8.93	10.95
Physics	2015	Code 25	Code 26	0.533*	0.199	0.037	6.26	0.0851	3.38	2049	1958	6.14	6.39
9(25.00%)	2017	Code 67	Code 68	0.537*	0.194	0.028	6.13	0.0875	3.39	2020	1953	6.01	6.26
	2017	Code 68	Code 70	0.551*	0.197	0.027	6.10	0.0904	3.58	1953	1878	6.26	5.92
	2019	Code 23	Code 26	0.500*	0.19	0.042	5.75	0.0869	3.38	1835	1661	5.79	5.71
	2020	Code 39	Code 40	2.042*	0.245	0.000	7.01	0.2913	11.41	1693	1667	7.09	6.93
	2020	Code 39	Code 41	1.026*	0.248	0.000	7.22	0.1421	5.57	1693	1598	7.09	7.36
	2020	Code 39	Code 42	2.474*	0.25	0.000	7.06	0.3504	13.68	1693	1542	7.09	7.03
	2020	Code 40	Code 41	1.015*	0.249	0.000	7.14	0.1421	5.57	1667	1598	6.93	7.36
	2020	Code 41	Code 42	1.448*	0.254	0.000	7.20	0.2011	7.26	1598	1542	7.36	7.03
Chemistry	2015	Code 27	Code 28	1.166*	0.3591	0.006	11.26	0.1035	3.98	2120	2087	11.68	10.82
15(41.67%)	2015	Code 27	Code 29	2.177*	0.3619	0.000	11.98	0.1817	7.142	2120	2025	11.68	12.29
	2015	Code 28	Code 29	1.011*	0.3633	0.028	11.57	0.0874	3.39	2087	2025	10.82	12.29

Appendix B

Estimation of proportion of test-takers to be affected by Item Position Changes

Subject	Year	Booklet Code (I)	Booklet Code (J)	Mean Diff. (I-J)	Std. Error	Sig.	Pooled Std	Absolute Diff.	Populatio n Diff.	Test-Taker		Standard Deviation	
										N(I)	N(J)	SD(I)	SD(J)
	2015	Code 29	Code 30	1.691*	0.3686	0.000	12.04	0.1405	5.56	2025	1968	12.29	11.77
	2016	Code 71	Code 73	1.246*	0.318	0.001	10.05	0.1240	4.77	2021	1878	10.19	9.9
	2018	Code 37	Code 39	2.089*	0.427	0.000	12.28	0.1701	6.74	1726	1620	12.11	12.46
	2018	Code 38	Code 39	1.865*	0.429	0.000	12.63	0.1476	6.35	1692	1620	12.8	12.46
	2018	Code 39	Code 40	1.480*	0.436	0.004	12.24	0.1209	4.77	1620	1586	12.46	12.01
	2019	Code 27	Code 30	1.004*	0.384	0.044	11.05	0.0909	3.58	1829	35.51	11.04	11.58
	2019	Code 28	Code 30	1.228*	0.386	0.008	10.86	0.1130	4.38	1782	35.51	10.85	11.58
	2020	Code 35	Code 37	5.109*	0.405	0.000	11.88	0.4300	16.64	1699	1613	11.75	12.02
	2020	Code 35	Code 38	3.091*	0.41	0.000	11.20	0.2760	10.83	1699	1543	11.75	10.56
	2020	Code 36	Code 37	4.570*	0.409	0.000	12.11	0.3773	14.61	1646	1613	12.2	12.02
	2020	Code 36	Code 38	2.552*	0.413	0.000	11.44	0.2232	8.7	1646	1543	12.2	10.56
	2020	Code 37	Code 38	2.018*	0.415	0.000	11.33	0.1781	6.94	1613	1543	12.02	10.56
Biology	2015	Code 31	Code 32	2.332*	0.505	0.000	16.28	0.1432	5.57	2144	2099	15.08	17.43
6(16.67%)	2015	Code 32	Code 33	2.193*	0.512	0.000	17.19	0.1276	4.97	2099	2022	17.43	16.93
	2015	Code 32	Code 34	1.433*	0.518	0.029	16.86	0.0850	3.19	2099	1938	17.43	16.22
	2018	Code 41	Code 42	1.863*	0.511	0.002	14.91	0.1250	4.77	1726	1685	15.5	14.27
	2020	Code 31	Code 34	1.687*	0.499	0.004	14.19	0.1189	4.57	1694	1545	14.4	13.96
	2020	Code 32	Code 34	1.689*	0.501	0.004	13.59	0.1243	4.77	1657	1545	13.24	13.96

1. **Absolute Difference** is calculated as the ratio of the mean difference to the pooled standard deviation.
2. **Population Difference** is determined using standard distribution table as percentage of the population between the mean and the absolute difference. In order not to exaggerate the size of the population affected with Item-position effects rounding up in calculations was not made.

'Future Perspectives' in Ethiopian Secondary School Curriculum and Instruction

Akalewold Andargu Gashe[*1], *Mastewal Workneh*[1], *Ambissa Kenea Boru*[2]

[1] *PhD Candidate, Department of Curriculum and Comparative Studies, Addis Ababa University, Ethiopia*
[2] *Professor, Department of Curriculum and Comparative Studies, Addis Ababa University, Ethiopia;*
* *Corresponding Author: akaleargu@gmail.com*

DOI: https://doi.org/10.63990/ejtel.v2i2.12445
Received: Oct 24/2024; Revised: Dec 31, 2024;
Accepted: July 28, 2025

Abstract

Future perspective in curriculum refers to the various theories, approaches, and thoughts that educators and researchers have regarding how curricula should evolve to meet the changing needs of society, technology, and learners. The study aimed to evaluate the space accorded to 'Future Perspectives' in the Ethiopian secondary school curriculum. The study employed a document analysis method using two main themes, i.e., the manifestation of the key components of future perspectives and expected learning opportunities. The study examines the manifestations of the key components using three sub-themes: personalized learning, lifelong learning, and integrated skills. To this end, three policy documents, thirty-one scholarly journal articles, eleven textbooks, and eleven teachers' guides are selected for analysis. Findings indicated that, although the policy documents and curriculum materials presented the components of future perspectives, the latter are rarely presented in some units of mathematics, English, and physics curricula. Furthermore, studies suggest that personalized learning, including individualized curricula, effectively meets individual student needs and improves educational outcomes if it adapts to students' experiences and strengths. However, the curricula under study failed to customize learning for students' strengths, needs, and skills. Concerning teaching strategies, policy documents proposed a learner-centered approach, whereas the research on the issue revealed that the teacher-centered teaching approach is the predominant practice in classrooms. It was concluded that the space given to future perspectives in the Ethiopian secondary school curriculum was not entertained as desired.

Keywords: Curriculum, instruction, future perspectives, learning opportunities, secondary education

INTRODUCTION

Secondary education plays a dual role in today's education system. It provides an extended platform for all young people to enhance their knowledge and skills or prepares them for higher education essential for society and the knowledge economy (OECD, 2007) and qualifies them for the labor market and productive adult lives, including participation in social, political, and economic spheres (Abdi & Kenea, 2022). The Ethiopian education roadmap recommended that Ethiopia needs to universalize the quality of secondary education by 2030 to meet the global target of sustainable development (Teferra et al., 2018). However, studies revealed challenges that hinder this target. Some of the challenges are inadequate professionally qualified teachers

(Asiyai, 2013; Mera, 2023; UNSD, 2024), inadequate education infrastructure and inadequate funding (Asiyai, 2013; Mera, 2023), and insufficient teacher training (UN Sustainable Development Goals, 2024). Although technology has expanded educational opportunities, it has also widened inequalities, leaving millions of people, especially in marginalized and low-income communities, without access to education (UNSD, 2024). Moreover, Malik (2018) states the challenges of 21st-century education are globalization, information communication technology (I CT), and knowledge explosion.

Concerning this, the Ethiopian General Education Curriculum Framework (EGECF) states that

> EGECF aimed at producing citizens who have the competence essential for life, further learning, and the world of work. It also aims to nurture citizens who have scientific and technological literacy, possess the ability to think creatively and critically, solve problems, and act in morally responsible manners, among many others (MoE, 2020, p.17).

Secondary schools, at this junction, are the place where learners find their own identity and power in all aspects. The curriculum, at these levels, is a future document and designs the future objectives to enhance the identity and power of the learners (MoE, 1994; MoE, 2023a; Olugbenga & Oluwatosin, 2022). However, there are always multiple versions of the future. Some are assumptions; others are hopes and fears, or even signal that something is already changing (OECD, 2020). In line with multiple forms of the future, Kress (2000) argued that the changes in the social and economic circumstances that characterize the present period make it essential to rethink the relation of curriculum, its purposes, and its shapes to the social and economic environment of the near future.

Future Oriented Curriculum

Future perspectives can refer to a broad range of topics depending on the context. In curriculum, it refers to the various theories, approaches, and thoughts hold regarding how curricula should evolve to meet the changing needs of society, technology, and learners (Ivanitskaya et al., 2002). However, in a general sense, "future perspectives" often focus on predictions, trends, and anticipated developments across different domains such as technology, society, and education (Jamil et al., 2024). It encourages the nurturing and sustaining of culture in schools that promotes critical thinking, creativity (David, 2019; Jamil et al., 2024), emerging technologies and adaptability (Andars, 2012; Olugbenga & Oluwatosin, 2022), innovation, life-long learning, and embracing change in the 21st century (David, 2019). Moreover, it imagines a transformative approach that prepares students not just for the present but for a dynamic and unpredictable future. In this context, a curriculum can equip the next generation by embracing technology (Chiu & Li, 2023; Van Mechelen, et al, 2023), interdisciplinary learning, student-centered

pedagogies, and fostering essential life skills, with the tools they need to thrive in an ever-changing world (David, 2019).

The future curriculum is a planned education program for society and emphasizes a curriculum for tomorrow based on systematic forecasting today (Olugbenga & Oluwatosin, 2022). That means the present curriculum is an important foundation for the future. Whereas a future-ready curriculum is one designed to equip learners with the knowledge, skills, and mindset needed to thrive in an increasingly complex and rapidly changing world.

Future curricula are more likely to use scenario planning and foresight approaches (Olugbenga & Oluwatosin, 2022). To prepare students with the brainpower and courage to create, the foresight approach focuses on giving curriculum planners the tools they need to create curricula that will not only give students future literacy in anticipation of future changes but also technical know-how or agency for future changes (Ju et al., 2017). Scenario planning, on the other hand, adapts the curriculum to the goals and objectives of any educational system that is put into place (Oliver, 2023; Tsui, 2023). It modifies the curriculum to reflect societal shifts brought about by technological advancements (Olugbenga & Oluwatosin, 2022). Nonetheless, future dual-oriented learning is a method of instruction that seeks to build the abilities and skills necessary for students to flourish in an evolving world. Generally, future curriculum focuses on the educational program for the future; future perspectives attention on theories and principles, future-ready curriculum emphasizes experienced curriculum, and future dual-oriented learning centers on the pedagogy.

UNESCO (2015) and the OECD (2018) underline that this generation needs a new mindset because our world is changing in complex ways, and the future is more complex than today. Although the importance of a future perspective in curriculum is broadly acknowledged, the implementation of a future dimension in schools is far from easy (Hicks, 2012; Slaughter & Beare, 2011). Even where future education pilots and experiments were successful, it proved to be complicated to give the future perspective a structural place in curricula and classroom practices. However, the concept of the "future" in curriculum involves preparing students for instability and change and emphasizes the role of design and creativity in shaping educational goals (Kress, 2000). Kress suggests that placing "design" at the center of the curriculum redefines the goal of education as fostering innovation, creativity, transformation, and adaptability to future environments. Incorporating a future perspective into the curriculum helps cultivate students' optimism about their ability to influence and shape the future (Rawnsley, 1999). According to Rawnsley (1999), there are two important rationales for examining the future. These are: (1) humanity is poised on the global brink of immense changes in a broad range of social, technological, and environmental areas; and (2) educating students about the

future will assist them in anticipating, preparing for, and possibly directing humanities and their futures.

Key Components of Future Curriculum

Studies revealed that there are various components of future perspectives in the curriculum. For instance, interdisciplinary learning that characterized by the integration of multidisciplinary knowledge across a central program theme (Ivanitskaya et al., 2002), and personalized learning that aims to customize learning for each student's strengths, needs, skills, and interests (Derseh et al, 2024) are some of the components. Moreover, it encompasses the interconnected but different key components such as personalized learning, lifelong learning, and integrated skills. Personalized learning is a learning strategy in which learners take responsibility for their learning, deciding what, how, and when they want to learn (Derseh et al., 2024; Shemshack & Michael, 2020; UNESCO, 2017). Similarly, lifelong learning is the provision or use of both formal and informal learning opportunities throughout people's lives to foster the continuous development and improvement of the knowledge and skills needed for employment and personal fulfillment (Laal & Salamati, 2012). It is essential in a dynamic and fast-changing knowledge world. It is perceived as the continuous acquisition of knowledge, skills, and competencies throughout one's life beyond formal education necessities in the future (Laal & Salamati, 2012; OECD, 2007).

Integrated skills are multifaceted. For Pardede (2010), the accelerative globalization and digitalization in the 21st century have been increasingly changing the way we live, interact, learn, and work. Consequently, to thrive in the 21st century, besides knowledge and basic skills, today's students should also be equipped with what is called the 4Cs (communication, collaboration, critical thinking, and creativity). Asrizal et al. (2023) state citizens of a country are expected to have a variety of skills, including critical thinking and problem-solving abilities, which are highly desirable, as well as creativity, communication, and teamwork to find solutions to 21st-century problems. The 21st century is a period focused on science and technology. Moreover, science, technology, engineering, and mathematics (STEM) learning is one of the high-level learning that is creating the future (Kömür & Gürbüz, 2021). STEM learning can increase student learning motivation because students are directly involved in the learning process and create generations who like learning science and mathematics. Through STEM learning, students are required to solve problems, be innovators, build independence, think logically, be literate in technology, and be able to connect STEM education with the real world (Artobatama et al., 2020).

Generally, the integration of personalized learning, lifelong learning, and integrated skills prepares learners to become adaptable, knowledgeable, and equipped to navigate an ever-

changing world. This holistic approach not only enhances personal growth but also prepares individuals for professional success in various fields. It is critical to incorporate them into the curriculum to give students the ability to influence and navigate probable future situations. Hence, the key components are operationally expressed as (1) personalized learning refers to an educational approach that modifies curriculum, instruction, and learning experiences to meet the needs, interests, and abilities of each learner; (2) lifelong learning is the selection and arrangement of curriculum contents that motivate learners to seek wisdom, knowledge, and skills throughout their life; and (3) integrated skills refer to the combined use of multiple competencies such as 4Cs and STEM in a unified manner to achieve specific goals.

Studies discussed that life skills, 21st-century skills, and future perspectives all focus on preparing individuals for success in various aspects of life (Chakra, & Kandhiraju, 2024), but they do so from different angles. All have nearly common key elements and components of future perspectives built on both life skills and 21st-century skills that prepare learners to face evolving challenges in a global context by equipping them with personal and professional success (Kennedy & Sundberg, 2020; Rotherham, & Willingham, 2010). Concerning the key components of future perspectives, EGECF identified them as 'core competencies, which include learning to learn, critical thinking and problem-solving, creative thinking and innovation, communication, collaboration, leadership and decision-making, digital literacy, cultural identity, and global citizenship (MoE, 2020). It is expected that these skills will be given space in the design of curriculum materials and instructional procedures for classrooms. Taking this as essential background, the study aims to appraise the space accorded future perspectives in the secondary school curriculum and instruction. The specific objectives are to evaluate the manifestation of the key components of future perspectives and assess the expected learning opportunities.

CONCEPTUAL FRAMEWORK

"Future perspectives" in curriculum and pedagogy would focus on integrating future-ready skills (McRae et al., 2019), preparing students for an evolving global environment, and aligning teaching methods with contemporary and future educational needs. The curriculum should not only focus on current knowledge but also on emerging trends and future possibilities (Gosper & Ifenthaler, 2014; Laal & Salamati, 2012). The future curriculum will need to prioritize skills over traditional subject boundaries, including 21st-century skills (collaboration, creativity, communication, and critical thinking), innovation (science, technology, engineering, and mathematics (STEM) (Kain, et al. 2024; Voogt & Roblin, 2010), as well as personalization and lifelong learning (Broeck et al., 2024; Thwe, 2024). Various studies demonstrate learning opportunities for future education will focus on inquiry-based learning (Pedaste et al., 2024), collaborative learning (Yang, 2023), and blended and digital learning (Zainil, 2024). According

to these studies, inquiry-based learning encourages students to pose questions, explore, and construct knowledge rather than passively receive information. Besides, collaborative learning facilitates peer learning and teamwork, which are essential in preparing students for future work environments that value cooperation. However, blended and digital learning incorporates both traditional and digital platforms to support diverse learning styles and increase accessibility to digital learning. Beyond basic technology skills, future students must be proficient in coding, data analysis, and using digital tools for teaching the learning process.

The interconnection among the key components is vital for creating an effective educational environment. They help the learners to connect the theoretical and practical aspects of curriculum and pedagogy with the real-world situation. Besides, their synergy creates a holistic educational experience that not only addresses individual needs but also prepares students for complex real-world challenges by equipping them with a broad range of competencies. Hence, the common intersection point of the three circles indicates the occurrence of real learning

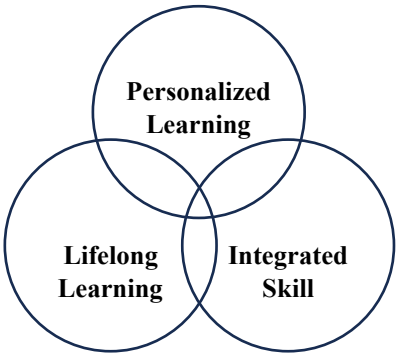

Figure1: *Interconnection among Key components of future perspectives developed by authors*

METHODS AND MATERIALS

Method: The study used a qualitative document analysis method that helps to better conceptualize the "future perspectives" and the space accorded for its components based on data available from documents and the author's views and experiences. Document analysis is a systematic procedure for evaluating documents that examine and interpret data to elicit meaning, gain understanding, and develop empirical knowledge (Bowen, 2009).

Document analysis method: It involves the analysis of various types of documents, including books, newspapers, articles, academic journals, research results, policies, and institutional reports (Morgan, 2022). It uses pre-existing documents that allow researchers to gain access to the best source of data for completing the study. The process of conducting a document analysis starts with selecting the documents for the study. In selecting the documents, the researcher

needs to consider several factors: authenticity, credibility, representativeness, and meaning (Flick, 2018).

Materials and Sampling Technique: This study used purposive sampling for a document analysis. Hence, three subjects, namely mathematics, English, and physics, were purposively sampled from grades 9-12 to address the manifestation of key components and assess the expected learning opportunities. The subjects are selected based on the expectation that the key components are more manifest, and teaching strategies are more applicable in English, mathematics, and science subjects than others. As a result, three policy documents, thirty-one scholarly journal articles, eleven textbooks, and eleven teachers' guides are selected and analyzed.

Data Collection: Data were mainly generated from institutional, national, and international secondary sources of policies and strategies, textbooks, teacher's guides, research findings, and articles.

Data analysis procedures: Since document analysis is the process of evaluating the existing documents, it helps to examine and interpret, uncover meaning, gain understanding, and come to a conclusion. To this end, to address the objectives of the study based on theme, relevant documents are selected, organized, analyzed, and interpreted. Finally, the conclusion is drawn from the findings

RESULTS AND DISCUSSION

This section presents the results and discussion of the data obtained from policy documents, the curriculum framework, curriculum materials (textbooks and teacher`s guides), and research outputs. However, there were limitations in the research product that was done on future perspectives in the Ethiopian secondary school curriculum. Though there were limitations of research outputs on the topic under study, the study tried to connect the concepts, phrases, and issues related to key components.

Results:

Studies discuss that future perspectives curriculum contents and learning opportunities are organized to improve learners` autonomy, personal fulfillment, and creation of their world (Derseh et al., 2024; Shemshack & Michael, 2020; UNESCO, 2017). In doing so, the curriculum materials are expected to consolidate their contents and deliver concepts, theories, and facts through keynote speeches (the teacher introduces new concepts), which cover 20%; demonstration sessions, which cover 40%; and workshop sessions, which cover 40% of the total portions of curriculum materials (MoE, 2013).

This study often applied the words 'small, few, inadequate, limited, minimal, many, much, and most' to explain the existence of key components in policies and curriculum materials. For this

study, these modifiers are categorized into three percentage ranges. The scientific categorization of them is based on the contexts of the topic under study. Categorizing the words into percentage ranges can be somewhat subjective, as these terms are often context dependent. However, researchers, psychologists, health researchers, statistical analysts, and linguists (Barwise & Cooper, 1981) have studied how people interpret these terms in various contexts, providing some evidence for their categorization. In most of the fields, these quantifiers are categorized as a high percentage (70%-100%), which includes most; moderate percentage (30%-70%), which includes many and much; and low percentage (0%-30%), which includes small, few, inadequate, and minimal. These categorizations can help in evaluating the completeness and effectiveness of policies and curriculum materials, guiding necessary improvements. As a result, this study applies a high percentage range (70%-100%) that encompasses the words "most," a moderate percentage range (30%-70%) that includes "many and much," and low percentage ranges (0%-30%) that include small, few, inadequate, and minimal.

Key Components of Future Perspectives in Curriculum

Educational Policies: Policies are the guiding principles that set the direction in which curricula are developed, implemented, and evaluated. They also decide the future direction of the learner, the expected outcomes, and the learning opportunities. Besides, the new education and training policy and EGECF proposed 'eclectic' as a philosophical direction and perceived secondary education as a life to be lived and a preparation for future living. Moreover, researchers articulated that the goal of secondary education is to prepare students for further education and for the world of work.

Essentially, the three key components, namely personalized learning, lifelong learning, and integrated skills (4Cs, STEM, creative thinking, critical thinking, and problem-solving), are assessed in the policies and EGECF. In Table 1, "X" indicates the appearance of key components in the policies (Education and Training Policy 1994, 2023) and curriculum framework.

Table 1

Key Components of Future Perspectives Addressed in Policy Documents

Key Components Documents	Personalized learning	Lifelong learning	Integration of Skills
1. Education and Training Policy (MoE, 1994, 2023a)			
Principles		X	**X**
Objectives	X	X	**X**
2. EGECF (MoE, 2020)			
Aim		X	**X**
Objectives	X		**X**
Competences	X	X	**X**

The new education and training policy, in its principles, stated relevance and quality, decentralization, transparency, and responsiveness, being free from politics and religions, being result-oriented and modern technology, and being competitive. The principles point out the issues of lifelong learning implicitly as ‘deliver quality and lifelong education and training for citizens’, and integration skills as 'modern technological integration with education and training.' Similarly, in their objectives, they stated lifelong learning indirectly as ‘education for personal and social improvement,’ personalized learning as ‘preparing citizens who believed in rational thinking and discussion, research, and reasoning,’ the integrated skills as ‘the integration of science and technology,’ creative thinking as ‘entrepreneurs,’ and problem-solving as 'responding to the existing condition’. In connection to indigenizing the curriculum, the education and training policy (MoE, 2023a) proposed that the general education curriculum should be prepared with quality by taking indigenous knowledge, ethics education, and productive and practical integration into account. However, the MoE (2023a) missed the issue of personalized learning in its principles.

Similarly, the EGECF demonstrates some components of future perspectives in its aims, objectives, and competencies. As shown in Table 1, its aim states lifelong learning is ‘to produce citizens who have the competence essential for life, further learning, and the world of work,' and integrated skills is ‘to nurture citizens who have scientific and technological literacy.' In the objective part, the EGECF states personalized learning as ‘use what is learned creatively, effectively, and ethically in life and the world of work,' and integrated skills as ‘utilize knowledge and skills of science and technology for innovation, invention, and entrepreneurship.’ In connection with competencies, the EGECF discusses personalized learning as learning to learn, critical thinking and problem solving, and creative thinking and innovation. It implies that EGECF addresses most of the components of future perspectives.

On the other hand, contextualizing the key components with Indigenous knowledge as well as intersectional perspectives is very crucial. In line with these, EGECF perceives education as a life to be lived and a preparation for future lives, recognizes different ethnic or linguistic groups, and addresses the utilization of indigenous knowledge and skills for the advancement of the self and society. Moreover, it addresses regional diversity through a substantial and complex balance between developing curriculum at the federal level (curriculum framework, syllabuses, and flow charts) and regional levels (adaptation of syllabuses and development of textbooks).

The policies and the framework describe and underline the importance of considering an intersectional perspective in secondary education. Scholars discussed intersectional perspectives in secondary education, which involve understanding and addressing the interconnectedness of various identity factors, such as race, gender, linguistic diversity, and

socioeconomic status (urban-rural, poor-rich) to create inclusive educational environments that recognize and mitigate multiple forms of discrimination and inequality (Dunajeva & Siarova, 2024; Harris & Leonardo, 2018). Even though the framework (MoE, 2020: 23) has described intersectional perspectives that should provide equal opportunities for all learners so that they would be able to fulfill their potential and recognize the uniqueness of each individual and the fact that each individual learns in different ways and at different rates, the contents of secondary education curriculum materials are prepared by assuming all students are at equal status in rural and urban, particularly, it ignores the disparities between socioeconomic status in urban and rural contexts. To elicit this concept, curriculum materials are assessed.

Curriculum Materials: Currently, Ethiopia revised the secondary school curriculum materials based on the curriculum framework (MoE, 2020) that emphasizes on 21st century skills and learner-centered teaching strategies. In this study, mathematics, physics, and English language teacher`s guides and textbooks are selected and the existence of key components are evaluated.

Personalized Learning: It is a complex instructional philosophy and approach that optimizes learners' autonomy. The contents of such strategies are consciously and carefully developed. It is about individuals developing a clear understanding of how learning to learn occurs. EGECF adopted the four pillars of learning espoused earlier by UNESCO: learning to know, learning to do, learning to be, and learning to live together. It discusses that to handle these pillars, learners must be able to work effectively, independently, and in groups that build on their own learning experiences, cultural backgrounds, and preferred learning styles, as well as develop sound work habits and take increasing responsibility for their learning and achievement. To strengthen or argue these issues, mathematics, English, and physics curricula are examined.

***Mathematics*:** The secondary school mathematics curriculum presented different contents across the grade levels that required the students' engagement in the teaching and learning process. In connection to personalized learning, the grade ten mathematics teacher`s guide stated:

> Studying mathematics provides learners not only with specific skills in mathematics but also with tools and attitudes for constructing the future of our society. The students automatically begin to apply high levels of mathematical reasoning and values to daily life and also to their understanding of the social, economic, political, and cultural realities of the country. In doing so, a student-centered approach that encourages personalized learning will be employed,

> which will encourage students to develop personal qualities that will help them in real life. (MoE, 2023b, p. 1)

This text depicted that mathematics prepares learners for the future through a student-centered approach that encourages personalized learning. To improve personalized learning, the role of teachers must become more flexible, ranging from lecturer to motivator and facilitator. To synchronize whether personalized learning is exhibited in grade 9-12 mathematics textbooks or not, contents are assessed. Contents, activities, examples, and exercises should be developed in ways that encourage personalized learning. Accordingly, there are many contents, activities, examples, and exercises that lead towards personalized learning. For instance, in grade nine textbooks, the issue of own learning is expressed as 'Two pencils and one eraser cost Birr 5, and three pencils and two erasers cost Birr 8. Let the price of a pencil and an eraser is x and y Birr, respectively. Express the statements with x and y by your own; in the grade eleven textbook 'Discuss rotation of points through 90° and 180° about origin'; in the grade twelve textbook 'Assume that you deposit Birr 3500 in a bank account paying an annual interest rate of 6%. Find the amount you have at the end of the first year, second year, third year, and nth year'.

Many various contents, activities, examples, and exercises in secondary mathematics lead to the application of personalized learning. However, most secondary level mathematics textbook contents are prepared in a "content-centered approach" and are not customized its instructions that consider individual needs and goals. The divergence here is the issue of 'personalized learning' needs careful and well-designed contents which emphasize student engagement whereas the "content-centered approach" places the transmission of content at the center of instructional processes and goals.

***English*:** The secondary-level English curricula are emphasized on listening, speaking, reading, vocabulary, grammar, and writing, which are dependent on individualized learning. In connection to this, the grade ten English teacher`s guide discusses that

> The grade ten English has been designed based on the syllabus. Accordingly, the activities in the textbook have focused on developing the students' English language competence both as a subject and medium of instruction. To this effect, all language skills have been given appropriate attention as survival skills. In practicing the activities, as stated in the curriculum, principled eclecticism has been in focus. This means that though the focus is a student-centered approach, teacher-led presentations and discussions have not been ignored altogether. (MoE, 2023c, p. XV)

Parallel with this, the appraisal of the appearance of personalized learning in textbooks indicated that much of the content from grades 9–12 invited personalized learning strategies. The issue of personalized learning in grade nine was exhibited in 'pre-listening questions, practicing

intonation individually, collocations, constructing individual sentences, and combining them into a paragraph'. Similarly, in grade ten, guessing contextual meanings of words, deriving word formations, and analyzing and summarizing listening texts are some of the issues in which the individual tries to learn by himself/herself. The assessment of English subjects across grade levels indicated that language skills with meaningful activities have been given appropriate attention through cooperative learning.

Physics: Like any other science subjects, it is taught practically, either in the classroom, in the laboratory, or the real world. In doing so, personalized learning should be taken into consideration to address the developed contents as intended. Regarding this, the grade twelve physics teachers guide states that

> It is a system that challenges the traditional practice of focusing on content coverage without paying attention to skill mastery. It is a system of instruction that is based on students demonstrating that they have learned the knowledge and skills they are expected to acquire as they progress through their education. This will be achieved through personalized learning. (MoE, 2023d, p. 1)

Concerning personalizing learning, some portions of physics textbooks showed their learning; for example, in grade ten, 'In your everyday life, you come across a range of constant acceleration motions. Can you give two examples of such a motion of your own? Similarly, in grade eleven, an experiment on the measurement of acceleration due to gravity (g) using the free-fall method is performed. The objectives of this experiment are to know the meaning of free fall and the conditions under which it occurs; know the value for the acceleration of gravity; correlate the motion of a free-falling object to the graphical descriptions of its motion; understand that the acceleration of gravity is independent of the mass of the free-falling object; and test the hypothesis that the acceleration of a freely falling object is uniform. The learners are experimenting on their own under the guidance of a teacher. Though some of the physics curriculum emphasizes personal learning, research has indicated that personalized instruction consists of providing support, monitoring progress, and interaction, which are useful in leading learners' autonomy.

Lifelong Learning: The secondary school curriculum should be designed to not only impart knowledge but also to cultivate skills and attitudes that promote lifelong learning. This holistic approach prepares students to adapt to changes, pursue further education, and thrive in their personal and professional lives. Currently, lifelong learning has become a dominant theme of education and training policies across advanced industrial nations. It empowers individuals to thrive in a rapidly changing world and lead fulfilling lives. It is expected that the curriculum is developed to promote lifelong learning by fostering intrinsic interest in learning (Dobreva &

Buzhashka, 2024). This review assessed the manifestation of lifelong learning in the mathematics, English, and physics curricula.

Mathematics: It is a tool used to organize our everyday lives and many occupations. It is used for computer programmers and describes cultures and state democratic principles, such as equality and justice. These statements stress the significance of mathematics in society as well as in everyday life. If mathematics becomes an important part of our lives, the teaching of the subject must reflect the new demands of the 21st-century generation.

The study assessed secondary-level mathematics teachers guides and textbooks to see whether the issue of lifelong learning was considered in their content organization. In this regard, the grade nine teacher guide states the issue of lifelong learning as 'In this stage, you are going to gain new knowledge and experiences that can help you learn and advance your academic, personal, and social career in the field of mathematics.' Besides, the grade ten teacher's guide also states it as 'use mathematics in daily life', and the grade eleven and twelve teachers' guides state it as 'the study of mathematics at this level will significantly contribute to students' lifelong learning and self-development throughout their lives'.

To make it more noticeable, the study goes through the contents of textbooks to assess the existence of the issues of lifelong learning. Accordingly, in the grade nine textbook, 'Calculate upper and lower bounds for the area of a school football field if its dimensions are correct to 1 decimal place (football and life); from grade eleven, 'A chemist has 6% salt solution and 12% salt solution. How much of the 6% salt solution and 12% salt solution must be added to get 300 g of 10% salt solution? (the connection between salt and life)' and from grade twelve,' A man accepts an initial salary of 5,200 ETB. It is understood that he will receive an automatic increase of 320 ETB in the very next month and each month thereafter. (a) Find the salary after the tenth month. (b) What were his total earnings during the first few years? (Occupational life)'. Similarly, there are many such types of contents and exercises in secondary-level mathematics textbooks. However, its existence differs from unit to unit and across the grade levels.

Different contributors advocated a variety of approaches to help learners learn mathematics. They stated that beforehand, mathematics contents must be organized carefully, contents and learners' lives must be connected, and learning strategies must be constructed to connect the contents with learners' lives. Though there are many contents related to lifelong learning, the way they are organized is not much connected to real life, and the learning strategies do not move beyond the classroom.

English: The English language plays a significant role in students' academic and personal lives. Moreover, language itself is a lifelong learning process. Most secondary-level English language contents seem to go beyond formal education. For example, grade nine English language contents stressed 'living in urban Areas, Study Skills, Traffic Accidents, National Parks,

Horticulture, Community Services, Communicable Diseases, Fairness, Equity, and the Internet'. Similarly, grade ten English contents are focused on 'Population Growth, Travel Behaviors, Punctuality, Tourist Attractions, Honey Processing, Branding Ethiopia and National Identity, the Healing Power of Plants, Multilingualism, and Digital versus satellite Television'. Grade eleven also focused on 'Environmental Hazards, Civilization, Causes of Road Traffic Accidents, People and Natural Resources, Global Warming, Patriotism, Efficiency of Health Services, Indigenous Conflict Resolution, Artificial Intelligence', and grade twelve English content focused on 'Sustainable Development, Time Management, Evidence on Traffic Accidents, Natural Resource Management, Mechanized Agriculture, Green Economies, National Pride, Telemedicine, Conflict Management, and Robotics'.

Most of the topics were designed to connect the issues with the emotional aspects of the learners, which helps them to critically understand their connection to their lives. The contents across the grade levels are slightly similar, with some variations. It was argued that the contents are interrelated to attach them with the learner's future lives. Studies also revealed that learning is by no means limited to the classroom. It can take place at anytime, anywhere, and in any form. English language content should enrich and extend learners' language learning experiences in real contexts.

Physics: It provides an ideal environment in which to engage in critical thinking and practical problem-solving skills. To bring the ideal world, the physics contents need to be well organized and address the learners' future. This review study also examines the appearance of lifelong learning in the secondary school physics curriculum. Some of the contents in the grade eleven textbook indicated the issue of lifelong learning, which is expressed by 'Traditional Maresha'. A farmer is plowing the field using a traditional Maresha (plow) pulled by two oxen. The two oxen are pulling the beam (*Mofer*) with a force F2v of 1200 N at an angle of 40° from the horizontal, and the farmer's force F1v on the handle (*Erif*) is 150 N at 60° above the horizontal. Find the resultant horizontal pulling force exerted by the farmer and the oxen on the Maresha'. Similarly, many contents in other grade levels show the existence of lifelong learning.

Integrated Skills: They are multifaceted. The accelerative globalization and digitalization in the 21st century have changed the way we live, interact, learn, and work. Consequently, to thrive in the 21st century, students should also be equipped with integrated skills. The study reviewed the appearance of the integrated skills in the three subjects.

***Mathematics*:** - Studying mathematics provides students not only with specific skills in mathematics but also with tools and attitudes for constructing the future of our society. Studies revealed that the students automatically begin to apply a high level of mathematical reasoning, valuing daily life and understanding the social, economic, political, and cultural realities of the country. The assessment of the existence of the issues of integrated skills in some contents of

the mathematics curriculum showed that there was the integration of mathematics, physics, computers, and chemistry. For instance, in grade nine mathematics, the issue of integrated skills are stated as 'Two women A and *B* lie on the leveled ground at opposite sides of a 15-meter-tall tower. If A observes the top of the tower at an angle of 60° and B observes the same point at an angle of 30°, then how far can the two women be away from each other? (Physics and mathematics integration); the teacher wants to post square pieces of equal-sized color papers on a whiteboard measuring 20 cm by 50 cm. If only squares of length with natural numbers are considered, and the board is to be completely covered, find the largest possible length of the side of each square piece (critical and creative thinking). There are many types of content and examples across the secondary grade levels.

Research outputs revealed that integrated skills help learners tackle a problem from a multidimensional perspective. If the mathematics content is developed by considering integrated skills, it plays a crucial role in improving learners' creativity and critical thinking.

English*:* The integration of skills is emphasized throughout the secondary-level curriculum. In grade nine, the integration of different language skills into various activities to enhance learning and proficiency is prominent. Grade ten offers detailed information on how different language skills are integrated into various activities. It presents all language skills in connection with one another, in contrast to the traditional segregated language skills approach that presented each language skill separately. Besides, grade ten also provides resources and activities aimed at enhancing public speaking and communication skills, including tips on effective delivery, structuring speeches, and engaging an audience. However, despite the presentation of some integrated skills in secondary school English, there is a vast gap in addressing these components as anticipated. Studies depicted that integrating English language skills allows the learners to reach the level of realistic communication, which provides all round of communicative competencies in English.

Physics*: The* Grade 12 physics teacher's guide states about the integrated skills as:

> Physics generates fundamental knowledge needed for the development of other sciences, health education, and economic development; advancements in communication, energy, and transportation; and protection of the environment. It has made significant contributions to advances in new technologies by helping us understand scientific phenomena and creating theories critical to the development of new products that have dramatically transformed modern society. (MoE, 2023d, p. 1)

The study also assessed the presence of integrated skills in physics textbooks. As observed from the grade ten textbook, the issue of integrated skills is stated as 'a motorist undergoes a displacement of 250 km in a direction 30° north of east. Resolve this displacement into its

components (mathematics and physics integration); in grade eleven, Ethiopian Airlines, a Boeing airplane lands on one of the Bole International Airport runways with an initial velocity of 40.0 m/s and then decelerates at 1.50 m/s^2. (a) What length of runway will it need? (b) For how long will it move on the runway? (Critical thinking and creative thinking). Similarly, in grade twelve, 'Identify some relationships between physics and chemistry. What physics concept is applied in the separation of dissolved salt from water by the evaporation method (physics vs. chemistry)?

Learning Opportunities

Curriculum and learning opportunities are like two sides of the same coin. The issues of learning opportunities have been taken as the central points in which they are all the experiences and situations that students can learn from organized and naturally (WOSM, 2018). They help learners to understand the interconnection between their lives, their planet, and their future. It is characterized by flexibility, accessibility, interactivity, and a focus on fostering lifelong learning habits. Moreover, adaptability and embracing new technologies will be keys to navigating this rapidly evolving educational landscape. Concerning this, the MoE (2020) stated that secondary education provides a rich and diverse array of learning opportunities that can help students grow academically, personally, and professionally. More specifically, the grade 12 mathematics teacher`s guide states

> Recent research gives strong arguments for changing the way mathematics is taught. The traditional teaching-learning paradigm has been replaced by a student-centered model. A student-centered classroom atmosphere and approaches stimulate students' inquiry. The role of a teacher would be a monitor who guides the students as they construct their own knowledge and skills. A primary goal is to help the students to discover the concepts by themselves under the teacher's guidance and supervision. (MoE, 2023e, p. V)

This text implies that teachers should create learning opportunities by motivating students to develop personal qualities that will help them in real life. As the students develop personal confidence and feel comfortable on the subject, they will be motivated to address their materials to groups and to express themselves and their ideas with strong conviction.

Similarly, a grade nine English language teacher`s guide states

> The learning outcomes expected of students are built upon the Minimum Learning Competencies (MLCs) and constitute listening to a variety of texts at different levels (surface and deeper levels), interacting in English reading, comprehending, analyzing, synthesizing, evaluating, and interpreting ideas vis-à-vis their environment, getting meanings of words through different strategies, and mastery of selected grammatical elements appropriate to the

> level. Moreover, the learning opportunities focused on cooperative learning through group engagement. (MoE, 2023f, p.vii)

Some methods and techniques should help learners to achieve the required knowledge, skills, and attitudes. Besides, they are crucial for the successful implementation of the developed curriculum. On the other hand, Sisay & Enguday (2022), in their article "Teaching history in upper secondary education," found that teachers frequently use lectures, explanations, and discussions as the main methods of teaching. Contrary to popular belief, debate, inquiry, justification, and multiple-interpretation methods were not properly used by teachers and are rarely incorporated in textbooks. Fekede et al. (2023) also discussed that the student-centered approach is a teaching strategy that involves 21st-century skills and abilities like collaborative learning, problem-solving, creativity, self-directed learning, critical thinking skills, communication, digital, and technology literacy. However, the concept is poorly understood and not implemented so efficiently. They brought different determinant factors that have an impact on student-centered teaching and learning strategies, such as many students in a classroom, traditional classroom seating arrangements, insufficient teaching materials, a lack of time allocated for subjects, and teachers' perceptions of the use of student-centered teaching strategies.

However, the framework maintained that teachers must carefully select those appropriate to the learning situation and the needs of learners (MoE, 2020). When teachers identify methodologies of teaching, they must ensure that they are in line with learners' major capacities and desired characteristics, which are the main goals of learning. Even though the kind of teaching methodology recommended by the framework is one that engages students, makes learning enjoyable, and encourages students to explore, experiment, question, investigate, and create, it fails to address the factors that affect the teaching and learning process, which are listed by the above authors. In that connection, the kinds of strategies to be employed at different levels of education should be based upon learner ability, interest, capacity, degree of exposure to educational life, power of imagination, and chronological age, among others. In the same manner, teacher guides for secondary schools insist teachers use discussion, question, and answer, preparation and presentation of projects (Physics Teacher Guides), brainstorming, investigation and problem-solving, inquiry, laboratory experiment, fieldwork, research, use of analogy and examples, group work, cooperative learning, use of charts, mind maps, or concept maps and models (Physics Teacher Guides).

On the other hand, studies conducted on teaching methodologies in the Ethiopian education system revealed that even though student-centered teaching approaches that help activate learners' creativity, imagination, cooperation, critical thinking, and problem-solving skills were proposed in policies and framework, there were some barriers such as time allotment, a large

number of students in a class, traditional classroom seating arrangements, insufficient teaching materials, perceptions, and the readiness of teachers for the use of student-centered teaching strategies to implement them as intended in the classroom (Fufa et al., 2023).

DISCUSSION

Secondary school education in Ethiopia offers learners the opportunity to develop competencies and attitudes that enable them to develop job-oriented skills and continue learning. However, the study revealed that the issue of "future perspectives" in Ethiopian secondary school curriculum and instruction was not well investigated in the prior studies. Scholars implicitly state the future perspectives as interrelated but different components: personalized learning, lifelong learning, and integrated skills (Aliya et al., 2021; Copper, 2017; Derseh et al., 2024; Olugbenga & Oluwatosin, 2022; Shemshack & Michael, 2020).

The key components have been characterized by their nature or impacts on learners: focus, want to change, contexts in practicing, inputs needed, processes passed through, and outcomes brought on learners (Abiy et al., 2014; Eshete, 2005; MoE, 2020; OCED, 2018). With these characteristics of them, the results obtained from policy documents, curriculum materials and research outputs are discussed.

***Personalized Learning*:** It focuses on the concept of learners' autonomy and increases the student's responsibility. In connection, the policy documents and curriculum materials should be carefully designed and organized to enhance the learner's autonomy. To address personalized learning approaches, the contents should be flexible and align with specific student needs and learning goals and promote ownership of learning (UNESCO, 2017).

The study findings indicated that the Ethiopian education policies presented personalized learning as learning to learn (MoE, 2020) as well as preparing citizens who believed in rational thinking and discussion, research, and reasoning (MoE, 2023a). Moreover, the findings from curriculum materials depicted that many contents of mathematics, physics, and English appreciated personalized learning. However, there are most of the mathematics and physics contents, activities, examples, and exercises in secondary mathematics curricula did not lead to the application of personalized learning. The two curriculums are overloaded by bulky content. That means they are prepared in a "content-centered approach" and are not customizing their instructions to consider individual needs and goals. The divergence here is the issue of 'personalized learning' needs careful and well-designed contents which emphasize on student engagement whereas the "content-centered approach" places the transmission of content at the center of instructional processes and goals.

Nevertheless, various studies argued that the shift from content-centered to personalized learning is not a simple task. Significant effort is needed to develop instructional models and train teachers and students (Rumawatine, 2023; Orhani, 2024).

On the other hand, studies have consistently shown that personalized learning in secondary level curriculum enhances intrinsic motivation, engagement, and self-efficacy among students (Jones & Brown, 2020; Patel & Nguyen, 2021), promotes deeper learning, and fosters a sense of ownership (Van Mechelen, et al., 2023). Even though the education policies and curriculum materials revealed the existence of personalized learning, they failed to address it as intended. The argument is that the secondary-level curriculum has limitations in improving students' autonomy. To practice personalized learning, the contents should be carefully chosen by taking the learners' interests and future goals into account.

***Lifelong learning*:** From the beginning of the early 20th century until recently, lifelong learning became a key concept for solving social and economic problems in highly industrialized countries (ILO, 2019; Schlöglmann, 2006). Soni (2012) states it is essential for inventing the future of our societies. Scholars argued the selected contents should cross the boundary of formal education, which transforms society and makes them competitive globally.

In connection, this study appraised the existence of lifelong learning in policies and curriculum materials. It revealed lifelong learning implicitly stated in the objectives of policies as education for personal and social improvement (MoE, 2023a) and to produce citizens with the competence essential for life, further learning, and the world of work (MoE, 2020). Desalegn et al. (2014) discussed that promoting lifelong learning in Africa entails the creation of literate societies, the valuing of local knowledge, and talent and wisdom.

Though some contents benefit students to engage in lifelong learning in the three curriculum materials, most of the contents are focused on theories and concepts. However, different contributors advocated a variety of approaches to help learners learn mathematics, physics, and English. They stated that beforehand, their contents must be organized carefully, contents and learners' lives must be connected, and learning strategies must be constructed to connect the contents with learners' lives. Though there are 'many' contents in the three curricula that are related to lifelong learning, the way they are organized is not much connected to real life, and the learning strategies do not move beyond the classroom.

Above all, studies revealed lifelong learning is a mindset and a habit for people to acquire coherent and comprehensive learning strategies. For the action, valuing learning, investing time and money in learning, bringing together learners and learning opportunities; ensuring basic skills, and introducing innovative pedagogy took priorities. Concerning its practices, the secondary-level curriculum has some gaps in constructing the contents that lead to the future

lives of the learners. The educators should primarily value lifelong learning as well as develop curriculum materials that lead to improving the future lives of the learners.

Integrated skills: It creates knowledge that is more holistic than knowledge built in discipline-specific studies (Ivanitskaya et al., 2002). If contents are created given integrated skills, learners develop epistemological beliefs and enhance critical thinking. Moreover, the learners should master the integration of STEM, the 4Cs (Communication, Collaboration, and Critical Thinking and Creativity skills) (Nazifah & Asrizal, 2022).

The study revealed that educational policies and selected curriculum materials advocated integrated skills in selected secondary school curricula. The policies in its principles and objectives state the integration of science and technology as well as utilize critical thinking, problem-solving, and communication skills to engage with the constantly changing local, national, and global realities. Although the policies advocated integrated skills approaches, there was a lack of subsequent curriculum materials that developed such skills.

Finally, the study determined that even though there is the introduction of some key components of future perspectives in secondary-level curriculum materials, there are many gaps in addressing them as expected. Moreover, all selected grade-level curricula failed to customize learning for each student's strengths, needs, skills, and interests, rather, they followed subject-centered approaches in their curriculum developments. Consequently, the key components stated in the policies are not addressed in the selected curriculum materials.

CONCLUSION

The study emphasizes the space accorded 'future perspectives' in Ethiopia's secondary school curriculum and the expected learning opportunities. The studies revealed that future perspectives in curriculum encompass three key components: personalized learning, lifelong learning, and integrated skills, which are interconnected but dissimilar. Curriculum contents need to be well organized in advance in the manner that they will address the key components. In conclusion, the space accorded for the three key components in Ethiopia's secondary was not entertained as desired. The reasons are a lack of conceptualization about personalized learning, lifelong learning, and integrated skills, as well as taking less care during content selection and organization. Besides, it is important to recognize the space accorded for 'future perspectives' in education policy and curriculum framework as principles, aims, objectives, and competencies. The components exist but vary from unit to unit within the subject, among the subjects, and across grade levels. The studies conducted in Ethiopia about 'future perspectives' in the curriculum were inadequate and did not get proper attention.

Studies on learning opportunities revealed that learning occurs when students feel engaged, empowered, and in control of their learning. The contents in secondary school textbooks,

specifically in mathematics, physics, and English, are bulky and concentrated, which contradicts the practice of a learner-centered learning approach. Moreover, though learner-centered approaches were proposed by policy and curriculum framework, research output indicated that there are some barriers, such as a mismatch between content volume and time allocation, seating arrangement, and the readiness of teachers to implement it.

References:

Abdi, L., & Kenea, A. (2022). Interrogating the purpose of secondary education in Ethiopia: Rhetoric and reality. *International Journal of Indonesian Education and Teaching*, 6(2), 279–298. https://doi.org/10.24071/ijiet.v6i2.4903

Abiy, D.S., Kabeta, G.G. & Mihiretie, D.M. (2014). Developing a lifelong learning system in Ethiopia: Contextual considerations and propositions. *International Review of Education*, 60, 639–660. https://doi.org/10.1007/s11159-014-9435-z

Artobatama, I., Hamdu, G., & Giyartini, R. (2020). Analysis of STEM learning design based on 4C abilities in elementary school. *Indonesian Journal of Primary Education*, *4*(1), 76–86. https://ejournal.upi.edu/index.php/IJPE/article/view/24530

Asiyai, I. R. (2013). Challenges of quality in higher education in Nigeria in the 21st century. *International Journal of Educational Planning & Administration*, 3(2), 159–172. http://www.ripublication.com/ijepa/ijepav3n2_07.pdf

Asrizal, Usmeldi, & Azriyanti, R. (2023). Meta-analysis of the influence of the STEM-integrated learning model on science learning on 21st century skills. *Jurnal Penelitian Pendidikan IPA*, *9*(8), 339–347. https://doi.org/10.29303/jppipa.v9i8.3094

Barwise, J., & Cooper, R. (1981). Generalized quantifiers and natural language. *Linguistics and Philosophy*, *4*(2), 159–219. https://www.jstor.org/stable/25001052

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, *9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Chakra, A., & Lavanya, K. (2024). Life skills – The 21st century skills. *International Journal for Multidisciplinary Research*, *6*(4), 1–4. https://doi.org/10.36948/ijfmr.2024.v06i04.24402

Chiu, T. K. F., & Li, Y. (2023). How can emerging technologies impact STEM education? *Journal for STEM Education Research*, *6*, 375–384. https://doi.org/10.1007/s41979-023-00113-w

Cooper, R. (2017, November 6). How can educators best promote student agency? *K–12 Dive*. https://www.k12dive.com/news/how-can-educators-best-promote-student-agency/508050/

den Broeck, L. V., de Laet, T., Dujardin, R., Tuyaerts, S., & Langie, G. (2024). Unveiling the competencies at the core of lifelong learning: A systematic literature review. *Educational Research Review*, *45*, 100646. https://doi.org/10.1016/j.edurev.2024.100646

Derseh, G. A., Ahmed, S. A., & Warabu, R. D. (2024). Competency-based language teaching: Personalized learning and interaction in speaking skills instruction at grade 4. *International Journal of Multicultural and Multireligious Understanding*, *11*(4), 395–410. https://ijmmu.com/index.php/ijmmu/article/view/5820

Dobreva, V., & Buzhashka, B. (2024). Stabilizing the link between secondary and higher education through lifelong learning programs. In M. Carmo (Ed.), *Education and New Developments – Volume 1* (pp. 419–423). https://doi.org/10.36315/2024v1end088

Dunajeva, J., & Siarova, H. (2024). Intersectionality in education policy documents: Comparative analysis of nine European countries. *Humán Innovációs Szemle*, 15(1), 78–96. https://doi.org/10.61177/HISZ.2024.15.1.5

Eshete, A. (2005). The State of Problem Solving Skills in General Secondary Biology Laboratory Activities. *The Ethiopian Journal of Education*, *25*(2), 87–118. https://www.jstor.org/stable/48815628

Fufa, F. S., Tulu, A. H., & Ensene, K. A. (2023). Examining the challenges of using student-centred teaching strategies in secondary schools: A qualitative approach. *Journal of Pedagogical Sociology and Psychology*, 5(3), 181–192. https://doi.org/10.33902/jpsp.202323181

Gosper, M., & Ifenthaler, D. (Eds.). (2014). *Curriculum models for the 21st century: Using learning technologies in higher education*. Springer. https://doi.org/10.1007/978-1-4614-7366-4

Harris, A., & Leonardo, Z. (2018). Intersectionality, race-gender subordination, and education. *Review of Research in Education*, 42(1), 1–27. https://doi.org/10.3102/0091732X18759071

Hicks, D. (2012). The future only arrives when things look dangerous: Reflections on future education in the UK. *Futures*, 44(1), 4–13. https://doi.org/10.1016/j.futures.2011.08.002

ILO (2019). *Lifelong learning: Concepts, issues and actions*. International Labour Organization (ILO) Skills and Employability Branch. https://researchrepository.ilo.org/esploro/outputs/book/Lifelong-learning-concepts-issues-and-actions/995219000002676

Ivanitskaya, L., Clark, D., Montgomery, G., & Primeau, R. (2002). Interdisciplinary learning: Process and outcomes. *Innovative Higher Education*, 27(2), 95–111. https://doi.org/10.1023/A:1021105309984

Jamil, M., Zahra, H., & Fida, F. (2024). Integrating life skills in secondary education: Teachers' perspectives and challenges. *Journal of Social & Organizational Matters*, 3(4), 1–10. https://doi.org/10.56976/jsom.v3i4.112

Jones, A., & Brown, K. (2020). Longitudinal effects of personalized learning paths in online high school programs. *Educational Psychology Review*, 32(4), 589–605. https://doi.org/10.1007/s10648-020-09523-4

Ju, R., Buldakova, N. V., Sorokoumova, S. N., Sergeeva, M. G., Galushkin, A. A., Soloviev, A. A., & Kryukova, N. I. (2017). Foresight Methods in Pedagogical Design of University Learning Environment. *Eurasia Journal of Mathematics, Science and Technology Education, 13*(8), 5281-5293. https://doi.org/10.12973/eurasia.2017.01003a

Kain, C., Koschmieder, C., Matischek-Jauk, M., & Bergner, S. (2024). Mapping the landscape: A scoping review of 21st century literature in secondary education. *Teaching and Teacher Education*, 151, 104739. https://doi.org/10.1016/j.tate.2024.104739

Kennedy, T. J., & Sundberg, C. W. (2020). 21st century skills. In B. Akpan & T. J. Kennedy (Eds.), *Science education in theory and practice: An introductory guide to learning theory* (pp. 479–496). Springer. https://doi.org/10.1007/978-3-030-43620-9_32

Kömür, Ş., & Gürbüz, A. (2021). Current perspectives on integrated skills approach in the EFL/ESL classroom. *Muğla University Working Papers*. file:///C:/Users/hp/Downloads/CurrentPerspectivesonIntegratedSkillsApproach.pdf

Kress, G. (2000). A curriculum for the future. *Cambridge Journal of Education*, 30(1), 133–145. https://doi.org/10.1080/03057640050005825

Laal, M., & Salamati, P. (2012). Lifelong learning: Why do we need it? *Procedia - Social and Behavioral Sciences*, 31, 399–403. https://doi.org/10.1016/j.sbspro.2011.12.073

Malik, R. S. (2018). Educational challenges in 21st century and sustainable development. *Journal of Sustainable Development Education and Research*, *2*(1), 9-20. https://doi.org/10.17509/jsder.v2i1.12266

McRae, N., Church, D., Woodside, J., Drewery, D., Fannon, A., & Pretti, J. (2019). Toward a future-ready talent framework for co-operative and work-integrated learning. *Proceedings of the 5th International Conference on Higher Education Advances (HEAd'19)*, 1255–1262. Universitat Politècnica de València. https://doi.org/10.4995/HEAd19.2019.9319

Mera, M. S. (2023). Appraisal of the factors that hinder effective implementation of universal basic education policy in public junior secondary schools in Adamawa State. *International Journal of Educational Research*, *1*(2), 63–77. https://pdfs.semanticscholar.org/df89/a52e2acb75e220c209fdac8a79d61a740e36.pdf

MoE (1994). Education and Training Policy. Transitional Government of Ethiopia, Addis Ababa

MoE (2013). A Revised Guideline for Curriculum Modularization in Ethiopian Higher Education Institutions. Ministry of Education, March 2013 Addis Ababa, Ethiopia

MoE (2020). Ethiopian General Education Curriculum Framework

MoE (2023a). Education and Training Policy (Amaharic Version), Federal Democratic Republic of Ethiopia, Addis Ababa

MoE (2023b). Grade 10 Mathematics Teacher's Guide. Federal Democratic Republic of Ethiopia Ministry of Education, Addis Ababa

MoE (2023c). Grade 10 English Teacher's Guide. Federal Democratic Republic of Ethiopia Ministry of Education, Addis Ababa

MoE (2023d). Grade 12 Physics Teacher`s Guide. Federal Democratic Republic of Ethiopia Ministry of Education, Addis Ababa

MoE (2023e). Grade 12 Mathematics Teacher's Guide. Federal Democratic Republic of Ethiopia Ministry of Education, Addis Ababa

MoE (2023f). Grade 9 English Textbooks. Federal Democratic Republic of Ethiopia Ministry of Education, Addis Ababa

Morgan, H. (2022). Understanding thematic analysis and the debates involving its use. *The Qualitative Report*, *27*(10), 2079–2091. https://doi.org/10.46743/2160-3715/2022.5912

Nazifah, N., & Asrizal, A. (2022). Development of STEM integrated physics e-modules to improve 21st century skills of students. *Jurnal Penelitian Pendidikan IPA*, *8*(4), 2078–2084. https://doi.org/10.29303/jppipa.v8i4.1820

Ng, D. (2019). *Future-ready learners framework* [Technical report]. file:///C:/Users/hp/Downloads/FuturereadyLearnersFramework07Dec2019.pdf

OECD (2007). Secondary Education in OECD Countries: Common Challenges, Differing Solutions

OECD (2018). The future education and Skills. Education 2030 https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf

OECD (2020). Back to the Future of Education: Four OECD Scenarios for Schooling, Educational Research and Innovation, OECD Publishing, Paris, https://doi.org/10.1787/178ef527-en.

Oliver, J. J. (2023). Scenario planning: Reflecting on cases of actionable knowledge. *Futures & Foresight Science*, 5, e164. https://doi.org/10.1002/ffo2.164

Olugbenga, M., & Oluwatosin, O. (2022). Future curriculum and 21st century soft skills. *AGPE The Royal Gondwana Research Journal of History, Science, Economic, Political and Social Science*, *3*(3), 126–134. https://agpegondwanajournal.co.in/index.php/agpe/article/view/115

Orhani, S. (2024). Deep learning in math education. *International Journal of Research and Innovation in Social Science*, *8*(4), Article 804022. https://dx.doi.org/10.47772/IJRISS.2024.804022

Pardede, P. (2010). Integrating the 4Cs into EFL integrated skills learning. *Journal of English Teaching*, *6*(1), 71–84. https://doi.org/10.33541/jet.v6i1.190

Patel, S., & Nguyen, T. (2021). Self-regulation and goal setting in personalized learning paths. *Journal of Research in Educational Psychology*, *15*(2), 312–329.

Pedaste, M., Mäeots, M., Siiman, L. A., de Jong, T., van Riesen, S. A. N., Kamp, E. T., Manoli, C. C., Zacharia, Z. C., & Tsourlidaki, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational Research Review*, *14*, 47–61. https://doi.org/10.1016/j.edurev.2015.02.003

Rawnsley, D. (2000). A futures perspective in the school curriculum. *The Journal of Educational Enquiry*, *1*(2),39-57. https://web.archive.org/web/20180421125735/https://www.ojs.unisa.edu.au/index.php/EDEQ/article/viewFile/575/445

Rotherham, A. J., & Willingham, D. T. (2010). "21st-century" skills. *American Educator*, *34*(1), 17–20. https://www.aft.org/sites/default/files/RotherhamWillingham.pdf

Rumawatine, Z. (2023). The effect of personal learning models on self-confidence and learning outcomes to play soccer in extracurricular Men's soccer. *JIM: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah*, *8*(2), 864-873.

Schlöglmann, W. (2006). Lifelong mathematics learning – a threat or an opportunity? Some remarks on affective conditions in mathematics courses. *Adults Learning Mathematics International Journal*, *2*(1), 6–17. https://files.eric.ed.gov/fulltext/EJ1055354.pdf

Shemshack, A., & Spector, J. M. (2020). A systematic literature review of personalized learning terms. *Smart Learning Environments*, *7*, Article 33. https://doi.org/10.1186/s40561-020-00140-9

Slaughter, R. & Beare, M. (2011). Education for the 21st century revisited. Queensland: Foresight International.

Soni, S. (2012, May). *Lifelong learning – Education and training: Nigeria*. Paper presented at the FIG Working Week 2012: Knowing to manage the territory, protect the environment, and evaluate the cultural heritage, Rome, Italy, May 6–10. https://www.fig.net/resources/proceedings/fig_proceedings/fig2012/papers/ts05i/TS05I_soni_5945.pdf

Teferra, T, Amare Asgedom, A., Oumer, J, W/hanna, T, Dalelo, A and Assefa, B. (2018). Educational development roadmap (2018–2030): An integrated executive summary. Ministry of Education, Education Strategy Center (ESC). Draft for discussion. https://ethiopianstoday.com/wp-content/uploads/2021/02/Ethiopian-Education-Development-Roadmap-2017_2030-1.pdf

Thwe, W. P., & Kálmán, A. (2024). *Lifelong learning in the educational setting: A systematic literature review*. *The Asia-Pacific Education Researcher*, 33, 407–417. https://doi.org/10.1007/s40299-023-00738-w

Tsui, E., Dragicevic, N., Fan, I. Y. H., & Cheng, M. (2024). *Co-creating curriculum with students, teachers, and practitioners in a technology-enhanced environment*. *Educational Technology Research and Development*, 72(2), 869–893. https://doi.org/10.1007/s11423-023-10301-5

UNESCO (2015). Rethinking Education. Towards a global common good? Paris:UNESCO

UNESCO (2017). Training Tools for Curriculum Development: Personalized Learning. Published in Geneva, IBE-UNESCO C.P. 199 1211, Switzerland. http://www.ibe.unesco.org

UNSD (2024). The Sustainable Development Goals Report 2024

Van Mechelen, M., Smith, R. C., Schaper, M.-M., Tamashiro, M., Bilstrup, K., Lunding, M., Petersen, M. G., & Iversen, O. S. (2023). Emerging technologies in K–12 education: A future HCI research agenda. *ACM Transactions on Computer-Human Interaction*, 30(3), Article 47. https://doi.org/10.1145/3569897

Voogt, J., &, Roblin, N.P. (2010). *21st century skills: Discussion paper*. University of Twente.

WOSM. (2014). *World Scout Youth Programme Policy*. World Scout Bureau. https://www.scout.org.hk/article_attach/23437/youthprogrammepolicy_en_final.pdf

Yang, X. (2023). *A historical review of collaborative learning and cooperative learning*. *TechTrends*, 67, 718–728. https://doi.org/10.1007/s11528-022-00823-9

Zainil, M., Helsa, Y., Sutarsih, C., Nisa, S., & Suparman, S. (2024). A needs analysis on the utilization of learning management systems as blended learning media in elementary school. *Journal of Education and e-Learning Research*, 11(1), 56–65. https://doi.org/10.20448/jeelr.v11i1.5310

Evolution of Teacher Education in Ethiopia: A Critical Review of the Historical Roots and Contemporary Perspectives

Solomon Areaya (solomonaeayak@gmail.com)

Associate Professor, College of Education and Language Studies, Addis Ababa University, Ethiopia

DOI: https://doi.org/10.63990/ejtel.v2i2.12446
Received: Dec.9/2024; Revised: June 25, 2025;
Accepted: July 28, 2025

Abstract

This Article presents a critical analysis of the evolution of teacher education in Ethiopia, tracing its roots from religious-based education to modern pedagogical frameworks. Historically, teacher education in Ethiopia began within the religious institutions of the Ethiopian Orthodox Tewahido Church, where instruction was closely tied to spiritual teachings. The transition to modern education was marked by Emperor Menelik II's initiatives and further expanded under Emperor Haile Selassie, who established the first formal teacher training institutions. Over the decades, the system has undergone significant changes. The introduction of secular education, the establishment of formal training programs, and the socialist restructuring during the Derg regime - infused with Marxist-Leninist ideologies - were pivotal moments in Ethiopia's educational evolution. In the early 2000s, the Teacher Education System Overhaul (TESO) represented a ground-breaking shift towards modern approaches, focusing on competency-based training and student-centered learning. Despite these advancements, challenges continue to exist. Resource limitations, disparities in quality across regions, and the struggle to retain skilled teachers - especially in rural areas - highlight persistent issues. The Article also examines the socio-political and economic influences shaping teacher education, including the contributions of international organizations like UNESCO and USAID. By weaving together historical and contemporary perspectives, this Article sheds light on Ethiopia's progress and persistent challenges in teacher education. The Article recommends policy improvements. It also emphasizes the importance of continuous professional development to ensure the system's long-term success and effectiveness.

Keywords: Traditional education, Teacher education, Professional development, Modern education, System Overhaul

Introduction

The origin of teacher education in Ethiopia is deeply rooted in both the traditional religious system and the early phases of modern schooling. Long before the establishment of formal secular education, the Ethiopian Orthodox Tewahido Church served as the primary institution for education and teacher training. With no formal national school system in place, the Church assumed responsibility for educating not only priests and religious leaders but also individuals who would go on to teach within ecclesiastical structures and local communities. This religious education system emphasized rote memorization, discipline, spiritual commitment, and strong teacher-learner relationships, laying a foundational educational culture that would influence

Ethiopia for centuries. Though the religious education system lacked modern bureaucratic structures, it was highly systematic, respected, and integral to the Country's intellectual life.

Ethiopia's educational practices can be traced back to the 4th century during the reign of King Ezana of Aksum, when Christianity was officially adopted. Religious instruction, which centered on biblical texts, hymns, and theological writings, became the bedrock of formal education. Clergy members were the principal educators, delivering instruction in church schools such as *Messaf Bet* and *Zema Bet* (Zewde, 2001). Teacher education followed an apprenticeship model, with novices learning under senior priests, gradually acquiring the skills necessary for teaching and liturgical service. Monasteries like Debre Libanos and Waldeba emerged as key centers for theological and pedagogical training, offering rigorous education in scripture, liturgy, and the traditional Ge'ez script (Pankhurst, 1972).

Even with the advent of modern education under Emperor Menelik II in the late 19th century, the influence of religious institutions on teacher preparation remained significant. Many of the first teachers in government schools had backgrounds in the Church education system (Teklehaymanot, 2013). Although the shift toward a secular teacher education framework gained momentum in the 20th century, religious principles—particularly those related to moral and character formation—continued to influence pedagogical training programs. The historical connection between religious and modern teacher education is therefore undeniable. The Church not only laid the groundwork for Ethiopia's formal education system but also provided the earliest model of teacher preparation, leaving a legacy on the evolution of the Ethiopia's educational landscape. The Church played a central role in educating the youth in religious doctrines, reading, and writing (Teshome, 1979).

In Ethiopia, formal schooling began in the early 20th century, when Emperor Menelik II established the first formal school, Menelik II School, in 1908, primarily to educate the nobility and modernize the Country (McClellan, 1988). This initiative was later expanded under Emperor Haile Selassie, who prioritized formal education as a cornerstone of modernization approaches (Zewde, 2001).

Historical evidence indicates that Ethiopia had structured religious education systems long before the introduction of modern schooling. The Ethiopian Orthodox Tewahido Church and Quranic schools offered formalized education characterized by structured curricula based on religious texts, hierarchical teacher-scholar relationships, and defined entry and exit criteria. For instance, the Church's education system included levels such as *qene* (poetry), *zema* (church songs), and *qidase* (liturgy), each with specific training processes and scholarly expectations (Levine, 1974).

Similarly, European missionaries also played a significant role in expanding modern, Western-style education in Ethiopia. They introduced curricula that combined secular subjects with

religious instruction, marking a shift from traditional religious education to modern one. Additionally, missionaries implemented new pedagogical techniques and practices distinct from the existing systems. However, their contributions are more accurately associated with the expansion of Western-style education rather than the broader concept of formal education (Tibebu, 1995).

The Ethiopian Orthodox Tewahido Church was the primary education provider, where teachers, known as 'Yeneta', were responsible for transmitting religious teachings and traditional knowledge. 'Yeneta' refers to teachers within the Ethiopian Orthodox Tewahido Church who have completed higher studies in traditional education, including chant books (Degwa) and poetry (Qene Bet). These individuals are responsible for instructing students in religious studies and church conventions. Their instruction was largely based on the Holy Bible, emphasizing rote memorization and recitation (Pankhurst, 1968). Teacher training was informal, following an apprenticeship model in which young learners studied under experienced 'Yeneta', acquiring the skills to educate others. This traditional approach focused on religious texts and spiritual songs, essential for preparing clergy and religious scholars (Sergew, 1972).

Modern teacher education began to emerge in the early 20th century, primarily as a result of Emperor Menelik II's modernization efforts. Menelik invited foreign missionaries and educators to establish secular schools, marking a shift from a religion-based education to one that included secular subjects and formal teacher training (Zewde, 2001). This transition highlighted the growing need for trained teachers with modern pedagogical skills (Markakis, 2011). The establishment of the first formal teacher training institute under Emperor Haile Selassie marked a significant shift, incorporating subjects like science, mathematics, and history, thus cultivating a new generation of educators qualified to teach a broader curriculum (Negash, 1996).

Teacher training during the traditional era had both strengths and limitations. The apprenticeship model offered personalized, hands-on learning, where novices mastered religious content through direct interaction with experienced 'Yeneta'. However, this model was narrow in scope. It centred mainly on religious matters. It lacked standardized procedures, educational theories, and diverse pedagogical skills crucial for modern teaching. Its emphasis on memorization and recitation also limited the development of critical thinking and analytical skills - key competencies in contemporary education.

The shift from religious to secular education did not happen easily. The deeply rooted traditional system, which had served as the primary mode of instruction for centuries, faced resistance. The introduction of secular subjects and modern pedagogies by missionaries and the monarchy met with apprehension in some communities, which considered it as a threat to religious and cultural values (Tekeste, 1990). Under Emperor Haile Selassie, modernization efforts aimed to align education with national development goals. However, these reforms were often perceived as

top-down impositions, which centralized education development and sidelined traditional educators (Amare, 2006; Eshetu, 2014). Despite initial resistance, Ethiopia's education system gradually witnessed the coexistence and adaptation of traditional and modern pedagogical practices. Concepts of moral education and community-centered learning from traditional systems were adapted into modern schooling, emphasizing civic education and national consciousness (Wondimu, 2003). In some cases, the blending of traditional and modern systems led to hybrid teaching approaches, enriching the teacher education curriculum with culturally relevant pedagogy (Eshetu, 2014). However, integrating these approaches remains a challenge, as formal training often prioritizes Western pedagogical models over indigenous knowledge (Amare, 2006).

While the national curriculum has largely shifted toward secular and Western-based models, traditional elements have been preserved, particularly in primary teacher training. These elements include an emphasis on community-oriented teaching, moral education, and the role of teachers as moral guides (Tekeste, 1990). Recent efforts have also recognized the importance of incorporating local contexts and indigenous knowledge into teacher training (Wondimu, 2003). However, many teacher graduates still struggle to teach in culturally diverse settings, pointing to the need for a more culturally responsive teacher education system (Eshetu, 2014). The transformation from informal religious teacher education to formal teacher training in Ethiopia was marked by resistance, adaptation, and a gradual merging of educational systems. To develop a more effective and culturally relevant teacher education system, a deliberate effort is needed to blend Ethiopia’s traditional heritages with modern educational principles. This integration could help to address the persistent gaps in teacher preparation and thereby contribute to a more comprehensive and adaptive education system.

The first primary teacher education program began in September 1944 within a single room at Menelik II School, leading to the establishment of the first dedicated training institute in Gullele, Addis Ababa, in 1946/47. Then, secondary teacher education was introduced in 1951/52 at the then University College of Addis Ababa, which later expanded into the Faculty of Education (Mekuanent, 2000; Tadesse, 2017). However, the restructuring of the Faculty of Education at Addis Ababa University in 1978, following regime changes in 1974. This phenomenon affected the continuity and focus of teacher education (Aklilu, 2013; Areaya, 2008; Mekuanent, 2000).

The historical development of teacher education in Ethiopia—from religious to secular instruction—illustrates a gradual shift driven by modernization. This transformation has paved the way for an education system that seeks to harmonize traditional heritage with structured teacher training, addressing challenges related to inclusivity, pedagogical diversity, and adaptation to modern frameworks.

Knowledge Base of Teacher Education

The concept of the *knowledge base* in teacher education refers to the body of knowledge, skills, dispositions, and understandings that prospective teachers are expected to acquire during their preparation programs. This knowledge is often categorized into content knowledge, pedagogical content knowledge (PCK), general pedagogical knowledge, and knowledge of learners and learning contexts (Cochran-Smith & Lytle, 1999, Shulman, 1987).

Globally, scholars argue that a robust teacher education program must integrate both theoretical and practical components to build a comprehensive knowledge base. According to Darling-Hammond (2006), effective programs are characterized by a strong focus on subject matter knowledge, pedagogical strategies, reflective practice, and clinical experiences. A comparative analysis of teacher education systems in Finland, Singapore, and Canada revealed that coherent, research-based knowledge frameworks are essential for cultivating effective teachers (Schleicher, 2012).

Empirical research supports the idea that structured teacher knowledge contributes to teaching effectiveness and student learning. For example, a large-scale study in the U.S. found a positive correlation between teachers' pedagogical content knowledge and student achievement in mathematics and science (Hill et al., 2005). Similarly, in sub-Saharan Africa, the UNESCO Teacher Policy Development Guide emphasizes the need for a clear articulation of the knowledge base required for teacher professionalism (UNESCO, 2015).

In Ethiopia, several studies have indicated critical gaps in teacher educators' and pre-service teachers' knowledge bases. Semela (2014a) reported that teacher education institutions often lack coherence in their curriculum, leading to fragmented knowledge acquisition among pre-service teachers. Similarly, Tessema and Tadesse (2020) found that many Ethiopian teacher education programs are heavily theoretical, with limited practical integration, resulting in a mismatch between what teachers know and what classroom teaching demands.

Efforts like the Teacher Development Program (TDP) and GEQIP-E have aimed to address these challenges by emphasizing continuous professional development, subject specialization, and the integration of practical teaching experiences. However, evaluations indicate persistent issues regarding instructional delivery, particularly in connecting theory to practice (MoE, 2018; World Bank, 2020).

Areaya (2016) has examined the Ethiopian teacher education system, showing that repeated reforms often lack contextual relevance and fails to integrate pedagogical content knowledge (PCK), resulting in a disconnect between theory and practice. He suggests a paradigm shift that conceptualizes teachers not as mere technicians but as researchers and reflective practitioners.

To enhance teaching effectiveness, he advocates for teacher education programs that are contextually grounded, promote reflection, and incorporate PCK.

The knowledge base of teacher education is a multifaceted construct encompassing content knowledge, pedagogical expertise, and an understanding of learners and their contexts. While international models have demonstrated the importance of integrating theory with practice, challenges remain in many contexts, including Ethiopia, where fragmented curricula and limited practical training hinder effective teacher preparation. Addressing these gaps requires rethinking teacher education as a dynamic process that fosters reflective, contextually aware, and professionally competent educators.

Methods and Materials

Research Design

This Study employs a desk review approach to critically analyze the evolution of teacher education in Ethiopia. Desk reviews are a systematic method for synthesizing existing literature, policy documents, reports, and other secondary data to draw meaningful conclusions about a research topic (Creswell, 2014). This approach is particularly appropriate for the current Study, given its historical and policy-oriented focus, which required an in-depth examination of documented evidence spanning multiple decades.

Sources of Data

The sources of data for this Study encompasses a range of materials to ensure a comprehensive understanding of Ethiopian teacher education. These includes academic publications, such as peer-reviewed journal articles, books, and dissertations, which provide in-depth analyses and insights into the subject. Policy documents are another source, including government-issued education policies, curriculum frameworks, and reform reports, such as the Teacher Education System Overhaul (TESO) and the Postgraduate Diploma in Teaching (PGDT). Also, reports from international organizations, such as UNESCO, UNICEF, USAID, and the World Bank, have been utilized, as they offer valuable perspectives and data relevant to teacher education in Ethiopia. Besides, historical documents tracing the evolution of Ethiopian education systems—from religious education models to formalized structures— have provided essential contextual background.

To ensure the reliability and relevance of these sources, inclusion criteria have been applied, emphasizing alignment with the research objectives, academic rigor, and credibility. Priority has been given to publications that focus on Ethiopian teacher education, particularly those offering recent updates from the 1990s onward.

Data Collection Procedures

Data were collected through systematic literature searches using digital databases, university repositories, and institutional archives. Key search terms include “teacher education in

Ethiopia," "TESO reform," "PGDT program," "Ethiopian educational reforms," and "historical evolution of Ethiopian education." Documents were screened and selected based on their relevance, authenticity, and contribution to understanding the development of teacher education in Ethiopia.

Data Analysis

The Study has employed a thematic content analysis approach to identify, analyze, and interpret patterns within the reviewed documents, following the framework outlined by Braun and Clarke (2006). This method portrays a structured examination of key themes, including the historical progression of teacher education in Ethiopia, the impacts of major educational reforms—such as Haile Selassie's modernization initiatives, the policies of the Derg regime, and the Teacher Education System Overhaul (TESO) reforms—along with the challenges and opportunities currently faced by the teacher education system. Additionally, the roles of international organizations in shaping Ethiopian teacher education were explored.

The analysis has been done in three stages to ensure a systematic process. First, data organization involved categorizing sources according to themes and historical periods, enabling a chronological and thematic structure. Second, coding was undertaken to extract and align key excerpts with the study's objectives, ensuring relevance and focus. Finally, synthesis and interpretation aggregated these codes into broader themes, forming the basis for the Study's findings and discussions. This approach provided a robust framework for understanding and interpreting the dynamics of teacher education in Ethiopia.

Ethical Considerations

Given the desk review nature of this Study, ethical considerations were primarily centred on proper citation and acknowledgment of all sources. The Study adhered to academic standards of transparency, rigor, and ethical responsibility in data synthesis and reporting.

Significance

The significance of this Study is multi-faceted, targeting educators, policymakers, researchers, and schools. It should also be considered from a national development perspective. Teacher education is pivotal to Ethiopia's educational and societal progress. The Study is important because it is the foundation of the education system, well-trained teachers who are essential for delivering high-quality education, fostering critical thinking, and nurturing the skills and attitudes of future generations. In Ethiopia, where education is crucial for national development, the contribution of teacher education significantly influences the country's ability to address social challenges, drive economic growth, and achieve sustainable development goals.

Moreover, teacher education plays a vital role in promoting an inclusive and equitable society. Skilled educators are better equipped to meet the diverse needs of students, including those from marginalized or underserved communities. This inclusivity is critical for reducing educational

disparities and strengthening social cohesion. As Ethiopia continues to invest in education as a means of empowerment, the need for developing competent, adaptable, and innovative teachers is paramount. Enhancing the quality of teacher education is essential for building a resilient and dynamic education system that supports sustainable societal progress.

Historical Context of Teacher Education in Ethiopia

Early Beginnings

The origins of teacher education in Ethiopia are deeply rooted in traditional knowledge transmission methods that predate formal schooling. Historically, Ethiopian society relied on informal and communal teaching, primarily through oral traditions, apprenticeships, and family-based instruction. Elders and community leaders were central figures in educating younger generations about cultural values, practical skills, and local customs (Abate, 2020). This traditional system was effective in preserving cultural heritage and equipping individuals with skills essential for community survival. However, it was limited by its informal nature, lacking a structured approach to pedagogy and content standardization, which ultimately became a challenge in adapting to more formal educational demands.

Religious institutions, particularly the Ethiopian Orthodox Tewahido Church, were among the earliest centres for both learning and teacher training. The Church's role was pivotal not only in the spiritual domain but also in advancing literacy and education. Priests and deacons, who served as spiritual guides, were simultaneously educators, teaching not only religious doctrine but also literacy in Ge'ez, an ancient Ethiopian language (Teklehaimanot, 2018). The Church's educational approach, however, was primarily religious, with minimal emphasis on secular subjects, which limited the scope of learning. Despite this, the Ethiopian Orthodox Tewahido Church laid the foundational structures of what would later evolve into formal schooling, emphasizing reading, writing, and basic arithmetic. This religious model of education fostered a strong moral foundation, despite its lack of inclusivity in terms of access, gender representation, and secular knowledge hindered broader societal development.

The transition from traditional knowledge transmission to formal teacher education began in the late 19th and early 20th centuries, coinciding with Ethiopia's modernization efforts. Emperor Menelik II's efforts to establish formal schools marked a remarkable shift toward structured education, which emphasized standardized curricula and formal teacher training. This transformation was also influenced by the presence of foreign missionaries and colonial pressures that introduced Western educational models, which were characterized by regimented curricula, formal assessment practices, and systematic teacher training programs (Getachew, 2021). While this shift was progressive, it also carried implications for Ethiopia's cultural and educational identity. The adoption of Western pedagogical methods, although beneficial for

standardization and broader knowledge acquisition, often conflicted with indigenous teaching practices, side-lining local knowledge systems and cultural perspectives.

The historical progression of teacher education in Ethiopia reveals a complex interplay between tradition, religion, and modernization. While early teacher education was highly localized and community-centric, it lacked the formal structures necessary for scalability and inclusivity. Religious institutions contributed significantly to literacy and moral instruction but they were limited by their narrow focus on religious content. The modernization era, although pivotal for standardizing education, often imposed external pedagogical frameworks that were not always culturally responsive or aligned with Ethiopian societal needs (Wagaw, 1999).

Critically analyzing this trajectory, it is evident that Ethiopia's teacher education system has been shaped by a series of cultural, religious, and political influences that have had both positive and negative consequences. The traditional methods emphasized moral and cultural values but were insufficient for the broader educational needs of a growing society. On the other hand, formalization brought about structural improvements but risked diminishing the role of indigenous knowledge and localized pedagogical strategies (Teshome, 2007). This witnesses the need for a balanced approach in contemporary teacher education—one that integrates local knowledge systems, cultural values, and modern pedagogical frameworks to produce well-rounded educators capable of addressing Ethiopia's diverse educational needs.

Influence of Religious Institutions

Religious institutions, particularly the Ethiopian Orthodox Tewahido Church, played a foundational role in early teacher training practices in Ethiopia. The Church was not only a spiritual authority but also a primary educational institution for centuries. It established schools known as *Qene* and *Debre*, which provided religious education to young boys and trained future teachers, clergy, and scribes (Woldemariam, 2019). These religious schools emphasized theological studies, literacy in Ge'ez, and moral instruction, preparing students to become educators within the Church and their communities.

The Ethiopian Orthodox Tewahido Church's emphasis on rote memorization, recitation, and ethical instruction shaped the teaching methods and curriculum in these schools. Teachers, often priests or monks, were trained in this traditional framework, which was deeply intertwined with religious practices and rituals (Asfaw, 2017). This model of teacher education focused heavily on imparting religious doctrine and literacy, laying the foundation for Ethiopia's early educational structures.

As Ethiopia began to encounter external influences in the late 19th and early 20th centuries, the Church's role in teacher education was challenged and gradually supplemented by secular educational models. However, the Church's legacy in shaping early teacher training practices persists, as it set a precedent for the value of education in Ethiopian society (Abune, 2020).

Colonial and Post-Colonial Influences

The Italian occupation of Ethiopia (1936-1941) brought significant changes to the country's education system, including teacher education. During this period, the Italians attempted to impose their own educational model, which aimed to create a workforce that would serve colonial interests. Italian authorities established schools with a curriculum that emphasized practical skills over intellectual development, as they intended to limit the educational advancement of Ethiopians (Tareke, 2000). Teacher training during this time was minimal, focused primarily on basic skills necessary for supporting the colonial administration, which greatly hindered the progress of teacher education in Ethiopia.

Following Ethiopia's victory in 1941, post-occupation reforms sought to rebuild and modernize the education system. Emperor Haile Selassie gave priority to education as a key aspect of national development and established teacher training institutions to enhance the quality of education (Zewde, 2001). These reforms included the establishment of teacher training colleges and the introduction of modern teaching methodologies. The Ethiopian Imperial Government collaborated with international organizations to standardize teacher training programs, incorporating Western pedagogical approaches while maintaining aspects of Ethiopian culture and identity (Teshome, 1990).

During the post-Italian Occupation era, Ethiopia also sought to expand access to teacher education, opening more institutions across the country to address regional disparities. These reforms laid the groundwork for Ethiopia's current teacher education system, highlighting a move away from colonial influence toward a more autonomous and nationally focused approach to training educators.

20th Century Reforms and Developments in Teacher Education

Modernization Efforts under Emperor Haile Selassie

During Emperor Haile Selassie's reign (1930–1974), significant educational reforms aimed at modernizing Ethiopia's teacher training system were introduced. These reforms were part of a broader strategy to promote national development and align Ethiopia's education system with international standards. The Emperor considered education as a crucial tool for progress, leading to the establishment of formal teacher training institutions and the integration of modern pedagogical approaches (Zewde, 2001).

One of the key initiatives was the establishment of teacher training colleges, such as the Addis Ababa Teachers' College in 1944, which was the first of its kind in Ethiopia (Mekuria, 2015). These institutions were developed to address the growing need for trained educators capable of teaching in both urban and rural areas. Emperor Haile Selassie's Government also sought assistance from international organizations like UNESCO, which provided expertise and resources to develop curriculum and training methodologies (UNESCO, 1964). The

involvement of international organizations was instrumental in exposing Ethiopian educators to global teaching standards and practices, which were then adapted to suit local needs.

Curriculum and Pedagogical Reforms

The modernization of teacher education during this period involved a shift from religious and traditional methods to secular and standardized curricula. The training programs focused on subjects like science, mathematics, and language arts, reflecting a broader goal to equip students with skills relevant to a modernizing society. Pedagogically, the reforms introduced new teaching methods, such as student-centered approaches and practical teaching exercises, which encouraged critical thinking and active participation (Tekeste, 1990). However, these changes were not uniformly implemented across the country, as rural areas often lacked the resources and infrastructure necessary to support such reforms.

While the modernization efforts under Emperor Haile Selassie were ambitious, they faced several challenges. The educational reforms were largely top-down, with limited input from local educators or communities. This approach often resulted in a disconnect between the training provided and the practical realities faced by teachers in rural and underserved areas (Paulos, 2007). Additionally, the focus on Western educational models sometimes conflicted with traditional Ethiopian values and methods of teaching. Critics argue that the reliance on foreign expertise contributed to a lack of local ownership and a dependency on external support, which undermined the sustainability of these reforms in the long term (Assefa, 2012). In response to internal criticism, pressures, and public dissatisfaction with the existing education system, the Imperial Government of Ethiopia made a decisive policy decision in October 1971 to undertake a comprehensive study focused on the educational curriculum. This initiative, known as the Education Sector Review (ESR), was documented by the Ministry of Education as cited in Areaya (2019:53). However, the onset of the 1974 revolution, as Tefera (1996:7) described, dealt a fatal blow to the ESR.

Despite these criticisms, Haile Selassie's modernization efforts laid a critical foundation for the evolution of teacher education in Ethiopia. By establishing formal institutions and introducing modern pedagogies, the reforms set the stage for subsequent advancements in the country's education system. However, the limitations of these efforts highlighted the need for more context-sensitive approaches that could better address Ethiopia’s diverse educational needs.

The Derg Regime's Impact on Teacher Education

Regrettably, Ethiopia has never witnessed a peaceful and democratic transition of power from one government to another. The military coup in 1974 marked the beginning of a profound Marxist-Leninist revolution that toppled the Imperial regime. Following the Revolution, Ethiopia adopted Marxism-Leninism as the foundational ideology guiding its political, economic, and social frameworks (Areaya, 2019:58).

The Derg regime, which ruled Ethiopia from 1974 to 1991, brought significant ideological and structural changes to the Ethiopia's education system, including teacher education. Driven by Marxist-Leninist ideology, the Derg implemented sweeping reforms aimed at aligning education with socialist principles. These reforms had both immediate and long-lasting impacts on teacher training, as they shifted the curriculum and reoriented the objectives of teacher education to reflect the regime's political agenda (Molla, 2013a & b).

Under the Derg, education was redefined as a tool for socialist transformation, with a strong focus on promoting class consciousness and loyalty to the state. Teacher education programs were infused with socialist ideology, and courses in Marxist-Leninist philosophy and political education became mandatory components of the curriculum (Getahun, 1998). This ideological shift represented a significant departure from the previous era, as teachers were now expected to function as agents of the regime, disseminating socialist principles and fostering allegiance among students.

The Derg's approach to teacher training placed considerable emphasis on collective action and the role of teachers in building a socialist society. Programs were designed to prepare teachers not only as educators but also as community leaders and political advocates. This approach intended to create an army of cadre teachers who would promote socialist ideals and facilitate the regime's goals of societal transformation (Gebre, 2006). However, critics argue that this politicization of teacher education compromised the quality of instruction and marginalized pedagogical concerns, as ideological training often took precedence over educational best practices.

The Derg's curriculum reforms included the centralization of educational content and the standardization of teacher training across Ethiopia. The Curriculum heavily focused on promoting agricultural and technical skills, reflecting the regime's emphasis on self-sufficiency and economic independence (Assefa, 1991). The training programs were altered to include more vocational subjects, with the goal of creating a workforce aligned with the regime's economic objectives. Additionally, the Curriculum incorporated military training, which was intended to instil discipline and loyalty among teachers and students alike.

While the Regime's emphasis on technical and vocational education was seen as a practical response to Ethiopia's development needs, the implementation was often criticized for its rigidity and lack of responsiveness to local contexts. The centralized nature of the curriculum left little room for regional adaptation or consideration of the diverse educational needs within Ethiopia (Teshome, 2001). Furthermore, the focus on ideological indoctrination detracted from the development of critical thinking skills, as the regime discouraged any curriculum content that could potentially foster dissent or critical evaluation of the state.

The Derg's reforms had mixed outcomes for teacher education in Ethiopia. On one hand, the Regime expanded access to education and increased the number of teacher training institutions, particularly in rural areas (Wubneh, 1990). This expansion was intended to increase educational equity and address the widespread teacher shortage that Ethiopia faced. However, the quality of teacher training often suffered due to the regime's prioritization of ideological indoctrination over pedagogical excellence. Teachers were frequently viewed more as instruments of state policy than as educators, which undermined professional autonomy and reduced morale among educators (Demeke, 1999).

Moreover, the Derg's reliance on centralization limited the adaptability and effectiveness of teacher training programs. The focus on political loyalty over teaching skills contributed to a gap between training and actual classroom needs, as teachers were not adequately prepared to handle diverse educational challenges. In the long term, these policies led to a legacy of under-resourced and ideologically constrained teacher education that would require significant reform in the post-Derg era to rebuild.

In summary, while the Derg regime made strides in expanding access to teacher training, its focus on ideological conformity and centralization ultimately hindered the development of a flexible and effective teacher education system. The Regime's impact on teacher education illustrates the challenges of balancing political agendas with educational quality, a legacy that continues to influence Ethiopia's educational landscape.

Educational Reforms in the 1990s and 2000s

The 1990s and 2000s marked a period of significant educational reform in Ethiopia, as the country transitioned from a socialist regime to a federal democratic republic. This shift brought about profound changes in teacher education, driven by a series of new policies aimed at addressing the limitations of the previous system and aligning education with the needs of a modernizing nation. Key among these reforms was the Teacher Education System Overhaul (TESO), which sought to transform both the structure and content of teacher training to improve educational quality and equity (Seyoum, 2016).

Post-Socialist Educational Reforms and Policy Shifts

After seventeen years of rule, the military government was overthrown in May 1991 by a coup led by the political group Ethiopian People's Revolutionary Democratic Front (EPRDF) (Areaya, 2019: 61). After the fall of the Derg regime in 1991, the new government (EPRDF) implemented a range of policies to decentralize and democratize education. The 1994 Education and Training Policy (ETP) laid the foundation for these reforms, emphasizing the need to expand access, improve educational relevance, and promote inclusive education (Negash, 2006). These policy shifts in turn led to a rapid expansion of teacher training institutions across the country,

particularly in rural and underserved areas, to address teacher shortages and enhance regional equity in access to education (Yizengaw, 2005).

The expansion of teacher training colleges (TTCs) during this time was notable. By increasing the number of TTCs, the government aimed to produce a larger workforce of qualified teachers to meet the demands of a growing population. These institutions were tasked with implementing new curricula that focused on student-centred approaches and critical thinking skills, contrasting sharply with the more ideological and rigid training methods of the Derg era (Ashcroft & Rayner, 2011). However, while the expansion was successful in increasing the number of trained teachers, it also led to concerns about the quality and consistency of training across different institutions.

Teacher Education System Overhaul

The Ministry of Education (MoE), acknowledging the shortcomings in the teacher education system nationwide, implemented the Teacher Education System Overhaul (TESO). Despite its rollout across all six universities in the country, the TESO program had sparked significant debate and controversy regarding its effectiveness as a remedy for our teacher education system (Areaya, 2019:73).

The Teacher Education System Overhaul (TESO) reforms, launched in the early 2000s, represented a significant effort to modernize teacher education in Ethiopia by emphasizing competency-based training and a holistic approach to teacher professionalism. TESO aimed to move away from traditional, lecture-centric methods and towards more participatory and interactive pedagogical approaches. This shift included the integration of practical skills, real-world applications, and an emphasis on continuous professional development (CPD) (Semela, 2014b; Tadesse, 2017; Teferra, 2011a). TESO sought to foster student-centered learning environments where teachers act as facilitators, promoting critical thinking and active engagement.

Despite aligning with international trends in teacher education, TESO faced considerable implementation challenges. Many educators struggled to adapt to the new methods due to limited experience and resources, and the rapid pace of reform outpaced the capacity of some institutions to fully integrate these changes (Alemu, 2015). Additionally, the decentralized approach led to inconsistent implementation across regions, with resource limitations and insufficient training further exacerbating these disparities (Bekele, 2010).

The TESO reforms highlighted key considerations for Ethiopia's teacher education system, such as the need for clarity on the governance of teacher education programs, recruitment strategies, and curriculum balance. Questions arose regarding which institutions should oversee teacher education and how best to integrate subject content knowledge with pedagogical skills to develop Pedagogical Content Knowledge (PCK) (Tadesse,2017). The Ministry of Education, as

the primary initiator of TESO, aimed to shift away from a fragmented approach to a cohesive, experiential model that connected learning with students' personal experiences and communities (MoE, 2003).

TESO's core objectives included enhancing teacher quality, aligning teacher education with national standards, and establishing CPD programs to promote ongoing skill development (Woldegiorgis & Doevenspeck, 2015). By emphasizing "learning by doing," TESO replaced traditional methods with a system that prioritized field-based training and continuous assessment. It introduced tools such as reflective journals and formative assessments to monitor pre-service teachers' development (Amare, 2019). The reform also aimed to decentralize teacher education, allowing regional institutions to adapt programs to local needs and address educational disparities (Hailu & Tadesse, 2018).

However, TESO's impact was mixed. The shift to a competency-based approach required significant infrastructure and faculty training, which were often lacking. As a result, inconsistencies in teacher preparation quality persisted across regions (Asgedom, 2020). Moreover, there was a notable gap between policy intentions and classroom realities, with some pre-service teachers reporting limited practical experience (Yizengaw, 2019). While TESO aimed to enhance teacher quality, studies have shown that its effects on student learning outcomes have been variable, indicating a need for additional reforms (Negash, 2020). The uneven execution of CPD programs further underscored these challenges, as many schools lacked the necessary resources to sustain effective professional development (Wolde, 2021).

TESO underscored the importance of aligning teacher education reforms with broader national goals, as well as the need for ongoing support mechanisms like mentorship and investment in educational infrastructure. Mekonnen (2008) discusses the TESO reform, noting it brought significant changes aimed at improving the quality and effectiveness of teacher education. Despite these intentions, a review of the TESO document and feedback from teacher educators show mismatches between the reform's goals and its practical application. This misalignment reveals flaws in mission coherence and implementation tactics. While TESO introduced important features like longer practicum periods and an emphasis on professional training, issues such as uneven program components, admitting underprepared students, and inconsistencies between its declared and actual strategies raise doubts about its capacity to fulfil its transformative goals (Mekonnen, 2008).

Based on exiting and documented studies, it can be safely and logically asserted that TESO was a foundational step toward reforming Ethiopia's teacher education system. It introduced innovative teaching practices and fostered a shift towards a more integrated and practical approach. However, its success was hindered by several operational and strategic challenges.

The mismatch between the reform's ambitious goals and its implementation on the ground revealed significant gaps in planning, resource allocation, and execution.

Despite its limitations, TESO set a valuable precedent for competency-based and student-centred teacher education in Ethiopia, marking a foundational step toward meeting the nation's educational aspirations (Abebe & Woldehanna, 2021). Addressing these gaps is crucial for advancing teacher education and ultimately improving the quality of education. Continued investment in educational infrastructure, along with a more coordinated approach at both national and regional levels, is necessary to ensure the sustainability and effectiveness of such reforms.

Teacher Education in Ethiopia Post-TESO Reform: A Comprehensive Pathway Approach

Following the Teacher Education System Overhaul (TESO) reform, Ethiopia's teacher education structure was designed to provide multiple pathways—diploma, degree, and postgraduate programs—catering to various educational needs. This system reflects a strategic effort to enhance teacher quality across primary, secondary, and tertiary levels, each program offering distinct specialization, depth, and teaching-level alignment.

Approximately, six years after the launch and implementation of the TESO program and following the graduation and deployment of its first cohort into the teaching workforce, concerns emerged regarding the program's effectiveness. Certain stakeholders expressed doubts and complaints, suggesting that teachers' competence had not significantly improved. In response, and after considerable debate, the Ministry of Education introduced the Postgraduate Diploma in Teaching (PGDT) program, which adopted a different teacher preparation approach than its predecessor. The first PGDT cohort graduated in the 2011/12 academic year. The rationale for launching the PGDT program stemmed partly from the same issues that prompted the introduction of TESO and partly from a Ministry initiative to reorient the teacher education system towards pragmatic and reflective orientations (CEBS, 2013). However, as noted by Tadesse (2017), evidence-based experience from a teacher educator involved in implementing the PGDT indicated that these issues had, in fact, worsened.

Originally, the PGDT program was designed as a regular program aligned with the standard academic calendar. However, this mode was abruptly abandoned by the Ministry of Education in favour of a tentative new mode—an "in-out-in" delivery format. The intended structure of the program was not fully realized, and the new mode has faced numerous implementation challenges and bottlenecks. The difficulties encountered by the PGDT program are multifaceted, encompassing both internal and external factors within the implementing institutions. Some of these issues are inherently tied to policy and program design, while others are rooted in practical implementation challenges.

A. Diploma Programs: Preparing Primary School Teachers

Diploma programs, primarily offered at Teacher Training Colleges (TTCs), are geared towards training primary school teachers. Typically lasting two to three years, these programs emphasize foundational subjects such as language, mathematics, and pedagogy, focusing on child-centered teaching approaches. Although the diploma program had been in practice long before the introduction of the Teacher Education System Overhaul (TESO), the version implemented under the TESO reform faced criticism for its limited scope—particularly in fostering critical thinking and practical teaching skills (Taye, 2013; Asgedom, 2015). As a result, many diploma graduates require additional training to effectively manage diverse classroom environments, especially in rural areas with limited resources.

B. Degree Programs: Secondary Education and Specialized Training

Secondary school teachers are trained through degree programs offered at universities, spanning three to four years. These programs allow specialization in fields such as science, mathematics, and social studies, integrating content knowledge with pedagogical training. A key component is the practicum experience, where student teachers engage in supervised teaching to bridge theory and practice (Yizengaw, 2005). However, challenges such as large class sizes and limited resources can affect the quality of training. Degree programs also rely heavily on traditional lecture-based methods, which may not align well with Ethiopia's broader educational reforms emphasizing student-centered approaches (Alemayehu, 2019; Wolde, 2017).

Niguse (2022) examined the development of teacher training programs in Ethiopia from 1994 onward, observing a transition from socialist to pragmatist educational ideologies. He assessed various reforms such as pre-TESO, TESO, and PGDT programs, as well as newer integrated training methods. His findings suggest differing skill sets among graduates: those from TESO programs were notably proficient in subject knowledge and teaching methods; pre-TESO graduates stood out in student assessment and professional dedication; and PGDT graduates excelled in building relationships with students. The study advises retaining the strong points of each program, especially the TESO, to improve future teacher training efforts.

Current Teacher Education System in Ethiopia

Recently the Ethiopian Federal Ministry of Education (MOE) has ratified Curriculum Framework for Teacher Education to serve the general education. The Teacher Education Curriculum Framework was developed to guide the design and implementation of teacher education programs in Ethiopia. It addresses the organization of these programs, highlighting essential guidelines and standards for effective teacher education. The framework aims to improve program quality by providing a structured approach to course organization, educational focus, and quality assurance. It identifies current challenges and presents strategies for developing teacher profiles, competencies, and curricula, while also emphasizing the

importance of addressing cross-cutting issues such as methodology, assessment, and quality enhancement (MOE, 2022).

The current curriculum framework for teacher education in Ethiopia is structured to be implemented across all regions and teacher education institutions. It delineates three main levels, each with specific sub-levels and qualification requirements for teachers. The *Pre-primary Level* comprises two sub-levels, Level I and Level II, with a minimum qualification of a certificate for teachers. The *Primary Level* encompasses Grades 1 to 6, requiring teachers to hold at least a diploma. The *Middle and Secondary Level* covers Grades 7 to 12, where the minimum qualification for teachers is a degree (MOE, 2022).

This framework aims to ensure that teachers are suitably trained to meet the demands of the various educational levels. By specifying distinct qualifications for each level, it emphasizes the importance of appropriate pedagogical skills and content knowledge aligned with learners' developmental stages. Pre-primary education focuses on early childhood development, necessitating that teachers have foundational knowledge in child psychology, early literacy, and numeracy. The certificate qualification underscores the need for specialized training to nurture young learners' socio-emotional and cognitive growth.

Primary education covers a broader array of subjects and aims to establish a strong foundation in literacy, numeracy, and critical thinking. The diploma qualification requirement reflects the necessity for a comprehensive understanding of subject content, classroom management, and diverse teaching strategies suitable for younger learners. Middle and secondary education is more specialized, as it prepares students for higher education and the workforce. Teachers at this level are expected to demonstrate deeper content mastery, critical thinking, and advanced instructional strategies, thus necessitating a degree as the minimum qualification (MOE, 2022).

This structured approach aligns with global trends in teacher education, where training programs are tailored to the complexity and demands of different educational stages. By setting clear qualification standards, the framework aims to enhance the quality of education nationwide, ensuring educators are equipped to deliver effective learning experiences at each level. Furthermore, it contributes to the professionalization of teaching, establishing clear career progression pathways from certificates to degrees.

The objectives of the current Ethiopia's teacher education curriculum framework

The general objective of the teacher education curriculum framework is to align teacher education with broader educational goals, attracting and developing teachers who meet policy requirements and embody 21st-century competencies. This framework emphasizes the integration of indigenous knowledge, technology, and vocational skills to ensure a holistic approach to teacher education. The curriculum framework aims to develop curricula that equip

learners with professional knowledge, skills, and attitudes. This approach ensures that teacher education programs prepare future teachers not just with theoretical understanding but also with practical skills that are crucial for effective teaching and learning. It promotes the incorporation of technology as both content and a tool, highlighting its significance in modern education. By doing so, it fosters an environment where teachers can utilize technological tools to enhance teaching methodologies, making learning more engaging and accessible (MOE, 2022). Moreover, the framework emphasizes the development of skills and vocationalization, which aligns with the national drive towards practical skill acquisition. Vocationalization aims to prepare educators who can impart vocational skills, thereby aligning teacher education programs with the broader general education curriculum. This alignment ensures consistency and continuity across all levels of education, ensuring that teacher preparation is in sync with general educational objectives.

An important aspect of this framework is the integration of indigenous knowledge throughout the curriculum. By promoting local knowledge systems, the curriculum aims to enrich teaching content and methods, ensuring relevance to local contexts. Furthermore, socio-emotional learning is given prominence to enhance children's well-being, which is critical for holistic development. Teachers trained within this framework are expected to contribute to the socio-emotional growth of their students, fostering an inclusive and supportive learning environment.

Advancing 21st-century competencies is another key goal. This involves equipping teachers with critical thinking, collaboration, creativity, and communication skills, which are essential for modern education. The framework also emphasizes reflective practice, encouraging teachers to continuously analyze and improve their teaching strategies. This focus on reflection helps teachers become more aware of their strengths and areas for improvement, contributing to ongoing professional development. Inclusivity is also addressed in the framework, emphasizing the need to cater to diverse learners, including those with gender-based differences and special needs. By advocating for inclusive education, the farmwork ensures equity and access for all students, promoting a culture of acceptance and support.

Finally, the framework highlights the need for strong relationships between teacher education institutions and the surrounding communities. This focus on community engagement ensures that teacher education programs are not only locally relevant but also foster positive relationships that support broader educational goals. In summary, the teacher education curriculum framework is designed to produce competent, reflective, and inclusive educators who can meet the demands of 21st-century education. By integrating technology, vocational skills, indigenous knowledge, and socio-emotional learning, the framework aims to create a holistic and responsive approach to teacher preparation.

Core Competencies

Core competencies refer to a set of essential characteristics and abilities that enable individuals to effectively perform tasks by combining knowledge, skills, attitudes, and practical application. In the context of the Ethiopian General Education Curriculum Framework (GECF), these core competencies are foundational attributes that all learners are expected to develop, aligning with the broader educational goals of the nation (MOE, 2022)

The first competency, ***learning to learn***, emphasizes the capacity for self-directed learning. It encourages students to take ownership of their educational journey, cultivating curiosity, adaptability, and the ability to seek and process information independently. ***Critical thinking and problem-solving*** are vital for developing analytical skills, enabling learners to approach challenges with a logical and evaluative mindset. This competency is crucial for navigating complex issues, making informed decisions, and applying solutions effectively in real-world scenarios.

The framework also highlights ***creative thinking and innovation***, which fosters the ability to generate new ideas, think outside the box, and apply imaginative solutions to problems. This skill set is particularly important in today's rapidly changing world, where innovation drives progress. ***Communication*** as a core competency involves not only verbal and written skills but also active listening and the ability to convey ideas clearly and effectively. Strong communication skills are integral to fostering collaboration, understanding, and the effective exchange of information across different contexts.

Collaboration is another key competency identified in the current teacher education framework, emphasizing teamwork and the ability to work effectively with others. It promotes cooperation, respect for diverse perspectives, and the ability to contribute positively to group efforts, making it essential for both academic and professional success. ***Leadership and decision*** **as a key competency focus** on developing learners' ability to guide others, take responsibility, and make informed choices. This competency aims to build confidence and empower students to lead initiatives, solve conflicts, and contribute to community development.

In today's digital age, ***digital literacy*** is indispensable. It encompasses the skills needed to effectively use digital tools and technologies for learning, communication, and problem-solving. Digital literacy enables learners to navigate and engage with digital resources responsibly and effectively, preparing them for the demands of the modern world. Lastly, ***cultural identity and global citizenship*** promote an understanding of one's own cultural heritage while also fostering a global perspective. This competency encourages learners to respect cultural diversity, advocate for social justice, and actively participate in both local and global communities. Together, these core competencies form a holistic framework aimed at producing well-rounded, capable, and globally aware individuals equipped to thrive in diverse contexts.

The implementation of such a framework has been a longstanding challenge in the history of teacher education in Ethiopia. There are numerous lessons to be learned from the multiple unsuccessful and short-lived reforms in Ethiopian teacher education. To this end, the current teacher education framework requires the commitment and collaboration of all stakeholders and educational leaders to avoid the fate of its predecessor reforms. Often, implementation of teacher education in Ethiopia encounters significant challenges, including resource constraints, regional disparities, and resistance to change. These challenges are compounded by issues such as insufficient technological resources and a standardized approach that may fail to address localized needs. To ensure success, essential conditions must be met, such as increased funding, infrastructure development, capacity building, and robust monitoring and evaluation systems. Effective stakeholder engagement, long-term policy consistency, and a commitment to equity and inclusivity will also play a pivotal role. By addressing these factors and fostering community involvement, the framework has the potential to overcome historical challenges and establish a foundation for sustainable and impactful reform.

The parallel between the current teacher education framework and TESO

The current teacher education approach is potentially a different way of preventing the TESO program, and the MOE has clearly acknowledged the strength and innovative nature of the TESO program (MOE; 2022:1-2)

> *The Ministry of Education mandates adherence to this framework across all certification levels. Following a 2002 study on teacher education, the Ministry implemented reforms under the Teacher Education System Overhaul (TESO) initiative. This reform responded to major deficiencies, such as inadequate professional competence and unsatisfactory content knowledge among teachers, as well as ineffective teaching skills and a misalignment between teacher standards and professional expectations.*

However, after a long silence and a "black box" surrounding the TESO program, the MOE provided the following justifications for its eventual abandonment (MOE, 2022:2)

> *The TESO program in Ethiopia faced significant challenges as graduates struggled with planning, classroom management, and addressing students' needs due to inadequate subject knowledge and a lack of consideration for local social, political, and economic contexts. In response, several reforms were introduced to improve pre-service teacher education. These included changes in program duration and structure, such as shifting from a one-year certificate to a three-year diploma program and later to a generalist/specialist modality. Despite these changes, issues persisted, leading to the development of the Post-Graduate Diploma in Teaching (PGDT) for secondary education. However, a national study and a recent education roadmap identified*

ongoing issues, including misalignment between teacher education and school curricula, poor training quality, frequent changes in modalities, and neglect of cross-cutting issues like ICT and environmental education.

The national professional standards for teacher education cover three key domains: Professional Knowledge, Professional Practice, and Professional Engagement. Professional Knowledge emphasizes understanding both students and the content to be taught, while Professional Practice focuses on creating effective learning environments and utilizing appropriate assessment strategies. Professional Engagement encourages teachers to pursue continuous professional learning and actively engage with the wider educational community. Together, these standards foster a holistic development of teachers, ensuring they are well-prepared to contribute positively to the educational landscape.

In the pre-primary teacher education program, the curriculum is divided between diploma and certificate holders, with a focus on content knowledge and Integrated Technological Pedagogical Content Knowledge (TPCK). Diploma programs emphasize content knowledge (50%), whereas certificate programs allocate a significant portion (42.11%) to Integrated TPCK. Practicum and common courses are smaller but essential components, balancing theoretical knowledge with practical skills. This distribution allows diploma holders to develop a strong foundation in subject matter, while certificate holders receive more practice-oriented coursework, which is particularly beneficial in pre-primary education.

For middle and secondary school teacher education, the four-year degree program is structured around key course categories, including subject matter, methodology, and general professional courses. Subject matter and methodology form the core of the curriculum, ensuring teachers are well-prepared in both their content area and pedagogical approaches. Practicum courses account for approximately 9–10% of the curriculum, emphasizing the importance of hands-on teaching experience. This balanced curriculum equips teachers with the necessary skills to address the complexities of middle and secondary education effectively. The framework also allows for subject specialization at the primary school level. Teachers can focus on specific curriculum subjects, such as First Language and Mathematics, through major and minor specializations. This approach provides flexibility, enabling teachers to develop subject-specific expertise that can lead to improved educational outcomes for their students. Similarly, middle and secondary school teachers can pursue majors and minors in specific subjects, with combinations like Physics/Mathematics or Chemistry/Biology. This system supports the development of subject-specific expertise, essential for addressing the specialized content required at higher education levels (MOE, 2022)

A critical examination of the frequent and short-lived reforms in teacher education in Ethiopia, along with the history of their implementation, reveals a pattern that falls short of producing a

sustainable success story. Teacher education reforms in Ethiopia have often been characterized by poorly coordinated undertakings and have persistently faced numerous challenges that hinder effective implementation. Among the notable bottlenecks are a lack of alignment between policy design and practical realities, inadequate resource allocation from the government, and insufficient commitment to long-term capacity building.

For instance, despite the introduction of seemingly progressive frameworks, such as the Teacher Education System Overhaul (TESO), the initiative often suffers from poor planning, limited stakeholder engagement, and a lack of rigorous monitoring and evaluation mechanisms. Studies suggest that reforms frequently overlook the contextual realities of Ethiopia's diverse socio-economic and cultural landscape, further complicating their implementation (MoE, 2018; Teshome, 2014).

Moreover, the persistent gap in resource allocation reflects a systemic issue. Research highlights that for any education reform to succeed, particularly in resource-constrained settings like Ethiopia, adequate funding and infrastructural support are critical (UNESCO, 2016). Inadequate investment undermines efforts to enhance teacher training facilities, curriculum relevance, and the professional development of educators—key pillars for improving the quality of teacher education (Adamu & Haile, 2020).

The lack of ownership and accountability within the system exacerbates existing challenges. Without shared responsibility among policymakers, institutions, and educators, the implementation of any well-designed framework remains unattainable. As Fullan (2007) aptly observes, systemic reforms require coherence and collaboration across all levels of the education system to effectively translate policy into practice.

Unless deliberate attention is given to realizing these reforms—through strategic planning, adequate resource mobilization, and rigorous implementation strategies—Ethiopia’s teacher education system risks remaining in a perpetual state of flux, awaiting yet another reform cycle. This cycle not only wastes valuable resources but also undermines public confidence in the education sector's capacity to effect meaningful change. Much can be learned from the TESO reform, which faced shortcomings like those of its predecessor and successor reforms, to ensure the meaningful execution of the current framework.

To break this cycle, policymakers must prioritize sustainable reform strategies that encompass robust planning, equitable resource allocation, and continuous professional development for teachers. Only through such integrated and sustained efforts can lasting improvements in teacher education be achieved.

The current teacher education system in Ethiopia, guided by the recently ratified Curriculum Framework for Teacher Education, seeks to standardize and professionalize teacher preparation

across all educational levels by establishing clear qualification structures, pedagogical competencies, and curricular content. Structured around pre-primary, primary, middle, and secondary levels, the framework delineates minimum qualifications and emphasizes pedagogical relevance, subject mastery, and practical training. It integrates 21st-century competencies such as critical thinking, collaboration, digital literacy, and socio-emotional learning, while also promoting indigenous knowledge, inclusivity, and vocational skills. Drawing lessons from the shortcomings of past reforms like the TESO initiative, the framework addresses persistent challenges including weak implementation, inadequate resources, and poor alignment with contextual realities. Despite its ambitious design, the success of this framework hinges on sustained political commitment, stakeholder collaboration, sufficient funding, capacity building, and rigorous monitoring. Without these, the reform risks repeating the cycle of short-lived and ineffective initiatives, ultimately undermining efforts to elevate the quality and equity of teacher education in Ethiopia.

Teacher Education at Addis Ababa University

The historical development of teacher education at Addis Ababa University (AAU) mirrors broader educational trends in Ethiopia, showcasing the university's pivotal role in shaping the country's teaching workforce. This analysis critically examines key milestones in the evolution of teacher education at AAU, drawing on relevant evidence and scholarly insights.

The Emergence of Teacher Education in the Faculty of Arts (1952)

The origins of teacher education at AAU date back to 1952, when it began as a section within the Faculty of Arts. This establishment reflected a recognition of the pressing need for trained educators to address the growing demand for quality education following the expansion of Ethiopia's formal education system during Emperor Haile Selassie's reign (Negash, 2017). The creation of this section represented an initial effort to provide specialized training in pedagogy, marking the beginning of Ethiopia's systematic approach to teacher education. This development aligned with global trends at the time, as many countries in the Global South were similarly establishing foundational teacher training institutions to support national development (Altbach & Kelly, 1978). However, the early teacher education curriculum faced challenges, such as limited resources and a lack of localized content, which hindered its immediate effectiveness (Beyene, 2016).

Transition to a Full-fledged Department of Education (1959)

The evolution from a section to a fully-fledged Department of Education in 1959 marked a significant institutional advancement. This transition indicated formal recognition of teacher education as a distinct academic discipline requiring a dedicated curriculum (World Bank, 2004). The department's establishment allowed for the development of specialized courses designed to equip educators for diverse classroom environments, addressing both primary and

secondary education needs. The department's curriculum, however, faced criticism for being predominantly theory-oriented, with insufficient focus on practical pedagogical skills (Teshome, 2010a). This limitation reflected a broader challenge within Ethiopian higher education, where theoretical knowledge often outpaced practical application (Hoot et al., 2004).

The Establishment of the Faculty of Education (1962)

The transformation into the Faculty of Education in 1962 represented a crucial step towards comprehensive teacher training. This change facilitated a broader curriculum that incorporated not only educational theory but also research, educational policy analysis, and leadership training (UNESCO, 2005). This strategic shift was critical, as it responded to national demands for educational leadership capable of driving reforms across Ethiopia's education system. However, while the faculty succeeded in expanding the scope of teacher training, it faced challenges related to inadequate infrastructure, insufficient funding, and a shortage of qualified teacher educators—issues common in many post-colonial African countries (Mekonnen, 2009; World Bank, 2008).

The Be'ede Mariam Laboratory School (1965-77)

The establishment of the Be'ede Mariam Laboratory School in 1965 offered a practical training ground for prospective teachers, aligning theory with real-world teaching experiences (Teshome, 2010b). The laboratory school provided student-teachers with hands-on experience, enabling them to apply educational theories in a controlled environment. Its closure in 1978, however, signified a setback in the practical component of teacher training. The absorption of its functions by various subject departments raised concerns about whether this model adequately maintained the experiential learning opportunities critical for teacher development (Yizengaw, 2005).

The Re-establishment of the College of Education (2003-06)

The re-establishment of the College of Education between 2003 and 2006 signified renewed commitment to modernizing teacher education in Ethiopia. This period saw the introduction of updated curricula that integrated contemporary pedagogical theories and practices, emphasizing competency-based training and ICT integration (Ethiopian Ministry of Education, 2007). Despite these advancements, challenges persisted in terms of aligning teacher training with local needs, as the curriculum often drew heavily from Western models, which were not always contextually appropriate (Ashcroft & Rayner, 2011).

Emergence of the College of Education and Behavioural Studies (2007 Onwards)

In 2007, the formation of the College of Education and Behavioural Studies marked a shift towards an interdisciplinary approach, reflecting global trends that emphasize the importance of behavioral sciences in understanding teaching and learning dynamics (Harris, 2014). This

transition facilitated a more holistic approach to teacher training, integrating educational psychology, research methods, and behavioral studies. Such interdisciplinary training has been instrumental in addressing diverse learning needs and promoting inclusive education. However, despite these positive developments, the college has faced criticism for insufficient attention to indigenous knowledge systems, which are vital for culturally relevant pedagogy in Ethiopia (Gudeta, 2013).

In conclusion, the historical evolution of teacher education at Addis Ababa University demonstrates a progressive response to the changing educational landscape in Ethiopia. Each developmental phase, from the initial section in the Faculty of Arts to the present-day College of Education and Behavioural Studies, has contributed significantly to shaping quality teacher education in the country. Continued investment in localized curricula, enhanced practical training opportunities, and research-driven reforms will be crucial in addressing ongoing challenges and ensuring that Ethiopia's teacher education system meets both national and global educational standard.

Curriculum and Pedagogical Shifts: Moving Towards Modernized Practices

In recent years, Ethiopian teacher education has undergone substantial changes to better align with global standards. The shift from traditional, teacher-centered methods to interactive, student-centered approaches emphasizes critical thinking, problem-solving, and active learning. Despite these advancements, challenges such as resource constraints, insufficient instructor training, and regional disparities, especially in under-resourced rural areas, persistently hinder effective implementation (Gebrehiwot, 2019; Mulugeta, 2015; Abebe & Woldehanna, 2013).

Modern curricula in Ethiopia integrate subject content with pedagogical training, preparing teachers to meet diverse student needs. This includes courses on educational psychology, classroom management, and assessment (Hailemariam, 2016; Tessema, 2014). However, the curriculum is sometimes criticized for its theoretical focus and lack of practical applications, which impacts its coherence (Eshetu, 2018a).

Further reforms in Ethiopian education have introduced competency-based education, shifting away from rote memorization to developing essential skills such as critical thinking and collaboration. These reforms are designed to meet local market needs and ensure that education is academically and practically relevant (Melese & Tadege, 2019; Tadesse & Melese, 2016). Additionally, the integration of digital technologies within teacher education is significant. Despite the challenges such as inadequate infrastructure and high initial costs, initiatives like the e-SHE and the Digital Technology for Education Sector Transformation (D-TEST) aim to enhance digital literacy among educators and students, crucial for modernizing educational practices (Ferede et al., 2021; Ministry of Education [MOE], 2023).

Despite these advancements, a recent study by Mekonnen (2023) has revealed a significant reliance on traditional, content-driven pedagogical approaches within Ethiopian teacher education. These approaches prioritize content transmission over pedagogical skill development, which is essential for effective teaching. Mekonnen highlights issues such as poor-quality learning materials and inadequate preparation of teacher educators, which adversely affect the competency of future teachers and hinder educational achievements. He advocates for a fundamental transformation in the conceptualization and delivery of teacher education, requiring a shift in both the mindset and methodologies of educators and institutions (Mekonnen, 2023).

Pedagogical Approaches-Transitioning to Student-Centered Learning

Ethiopia's teacher education increasingly incorporates student-centered methodologies, encouraging active learning and collaboration. However, traditional mindsets among educators, combined with resource limitations, impede the full adoption of these methods. Continuous professional development is needed to support educators in transitioning to these innovative practices (Berhanu, 2018; Tadesse, 2017). Reform efforts also focus on transitioning from summative to formative assessment practices, incorporating peer evaluations and reflective journals to support personalized learning (Negash, 2020). While these approaches align with student-centered pedagogies, inconsistent implementation and a reliance on high-stakes testing remain challenges (Alemu, 2016).

Persistent Challenges: Resource Gaps, Retention Issues, and Quality Disparities

Despite reforms, Ethiopia's teacher education system faces challenges, such as resource limitations, high attrition rates, and inconsistencies in training quality. These issues impede efforts to produce well-prepared educators and highlight the need for systemic improvements (Bekele, 2015; Mulugeta, 2015). Teacher training institutions, particularly in rural areas, often lack essential resources, such as teaching materials, infrastructure, and technology. This scarcity hinders the quality of training and limits the practical experience necessary for future teachers.

Attrition rates among teacher candidates are high, largely due to low salaries, poor working conditions, and limited career advancement opportunities, especially in rural placements (Wolde, 2017). Although salary adjustments and professional development programs have been introduced, broader improvements in working conditions are essential to retain a stable, motivated workforce (Tadesse, 2017). There are significant discrepancies in curriculum quality across institutions, with some programs remaining overly theoretical and misaligned with practical classroom needs. Many teacher educators themselves lack training in student-centered methods, affecting the consistency and effectiveness of teacher preparation (Alemu, 2016; Eshetu, 2018b).

In conclusion, teacher education in Ethiopia has undergone substantial evolution over the past five decades, aligning more closely with global educational standards and transitioning from traditional, teacher-centered methods to dynamic, student-centered learning. These reforms are instrumental in fostering critical thinking, problem-solving, and active engagement among students. However, challenges remain, including scarce resources, inadequate instructor training, and significant regional disparities. These issues particularly hinder the effective adoption of modern pedagogical approaches in under-resourced rural areas.

The introduction of modern curricula that blend subject knowledge with pedagogical skills, along with competency-based education reforms, reflects a proactive effort to cater to diverse student needs and local market demands. However, the theoretical nature of these curricula and the irregular integration of practical applications necessitate a re-evaluation to enhance their relevance and coherence. Additionally, although digital technologies present a promising frontier for educational transformation, their deployment must be scaled up to overcome infrastructural deficits and high costs, which are current barriers to widespread adoption.

To transform teacher education in Ethiopia, a holistic approach is necessary—one that extends beyond curriculum reform to address the systemic issues of resource allocation, teacher retention, and quality disparities. Prioritizing investments in rural education infrastructure, improving working conditions to reduce teacher attrition, and aligning teacher training programs with the practical demands of classroom teaching are critical steps towards building a resilient education system.

Moreover, as reform efforts continue, it is imperative that they are embedded within a broader societal and institutional context that supports these changes. Only with a sustained commitment to enhancing the conditions under which teachers work, and by fostering an educational environment that values democratic principles and practices, can Ethiopia hope to achieve lasting improvements in its educational outcomes. The role of teachers and teacher education programs is central to this vision, requiring continuous support and recognition as pillars of national development. Thus, while the journey is on-going and tense with challenges, the pathway to reforming Ethiopian teacher education is clear: it requires a comprehensive, inclusive, and pragmatic approach that holistically addresses the needs of all stakeholders involved.

The Role of International Organizations

International organizations have played a pivotal role in shaping teacher education in Ethiopia, providing financial support, technical expertise, and strategic guidance that has influenced policy development and program implementation. Key players, including UNESCO, UNICEF, USAID, and the World Bank, have each contributed uniquely to the evolution of teacher

education, particularly in terms of improving access, enhancing quality, and promoting inclusive education.

UNESCO and UNICEF have been instrumental in advocating for universal education and teacher quality, working closely with the Ethiopian government to build capacity and promote educational reform. UNESCO has been actively involved in teacher training since the 1960s, focusing on curriculum development, pedagogical training, and the promotion of literacy. UNESCO has helped Ethiopian institutions adopt modern teaching methods and develop standardized curricula that are culturally relevant and internationally recognized (Teferra, 2011b).

UNICEF, meanwhile, has contributed significantly by supporting initiatives aimed at expanding access to education for marginalized groups, including girls and children with disabilities. Through programs like the Child-Friendly Schools initiative, UNICEF has emphasized the importance of creating safe, inclusive learning environments and training teachers to meet diverse student needs (Tiruneh, 2013). While these organizations have had a positive impact on teacher education, their interventions have sometimes been critiqued for being overly focused on international standards, which may not always align perfectly with local contexts and needs (Demeke, 2018).

UNESCO and UNICEF have played pivotal roles in advancing teacher education and strengthening Ethiopia's education system. UNESCO's International Institute for Capacity Building in Africa (IICBA), in partnership with UNICEF's Eastern and Southern Africa Regional Office (ESARO) and the African Union, organized workshops to enhance teacher policy development. In 2023, UNESCO prioritized mental health and psychosocial support (MHPSS) for educators to address post-COVID-19 challenges. UNICEF has supported curriculum reforms focusing on early childhood development and play-based learning. Through the Multi-Year Resilience Programme, UNICEF, in 2020, partnered with Ethiopia's Ministry of Education to improve access to education during crises and enhance teacher capacity. These initiatives underscore UNESCO's and UNICEF's significant roles in improving teacher education and bolstering the resilience of Ethiopia’s education system.

USAID has been another major contributor to Ethiopia's teacher education sector, providing funding for the construction of teacher training colleges and the development of educational resources. One of USAID’s notable contributions is the introduction of in-service training programs, which have helped improve the skills of existing teachers and facilitate their adaptation to new pedagogical approaches (Negash, 2006). However, USAID’s programs have occasionally been criticized for promoting a more Americanized model of education, which may not always consider Ethiopia’s unique socio-cultural dynamics (Gebre, 2015).

The United States Agency for International Development (USAID) has made a substantial impact on Ethiopia's teacher education system through initiatives designed to improve educational access, equity, quality, and relevance. Beginning from 1994 with the Basic Education System Overhaul (BESO I), USAID focused on strengthening primary education by enhancing teacher training and educational management (USAID, 2010). This effort was extended to 2002 with BESO II, which emphasized community participation and capacity building within the education sector. Moreover, USAID has been instrumental in providing in-service training programs that improve teaching methodologies and subject matter expertise, thereby elevating the quality of education in Ethiopia (Ethiopia Pilot Study, 2006). Through these sustained efforts, USAID has played a pivotal role in developing and enhancing Ethiopia's teacher education system and improving the overall quality of education in the country.

The World Bank in its part has focused on broad educational reforms in Ethiopia, often tied to structural adjustment programs that emphasize efficiency, accountability, and measurable outcomes. The World Bank's funding has enabled large-scale improvements in educational infrastructure, including the establishment of new teacher training facilities and the provision of teaching materials (Yizengaw, 2007a & b). However, critics argue that the World Bank's emphasis on standardized testing and quantifiable metrics has, at times, detracted from the development of more holistic, context-sensitive approaches to teacher education (Negash, 2006).

The World Bank has significantly contributed to enhancing Ethiopia's teacher education system through various initiatives aimed at improving educational quality and access. A notable effort is the General Education Quality Improvement Project II (GEQIP II), which, during its implementation, facilitated the graduation of over 20,000 primary teacher trainees and more than 5,600 secondary school teacher trainees in the 2016/17 academic year (World Bank, 2017a). Furthermore, the project supported the distribution of millions of textbooks and supplementary materials, improving the student-textbook ratio and providing essential resources for teachers and students. Building upon these efforts, the General Education Quality Improvement Program for Equity (GEQIP-E), launched in 2017, has implemented targeted interventions across all of Ethiopia's primary and secondary public schools to strengthen the education sector from the ground up, ensuring students and teachers receive the necessary support to enhance learning outcomes (World Bank, 2017b). Through these comprehensive programs, the World Bank has played a pivotal role in advancing Ethiopia's teacher education system and overall educational quality.

Other international organizations, such as the British Council and the German Corporation for International Cooperation (GIZ), have also made notable contributions. The British Council has focused on English language proficiency, sponsoring training programs to improve teachers'

language skills and instructional methods in English, which is the medium of instruction in Ethiopian secondary and tertiary education (Wolff, 2011). GIZ, on the other hand, has worked extensively in rural areas, promoting teacher training programs that emphasize vocational skills and community engagement, thereby aligning teacher education with local economic development goals (Berhanu, 2012).

While the contributions of these organizations have been invaluable in expanding access to teacher education and enhancing quality, their interventions are not without challenges. The reliance on international funding has sometimes led to an overemphasis on donor-driven priorities, which may not always align with Ethiopia's specific educational needs. Moreover, the focus on standardized approaches to teacher training can limit the flexibility of the education system, making it difficult for local institutions to adapt programs to the diverse cultural and linguistic realities of the country (Hailemariam, 2014).

In a nutshell, international organizations have played a crucial role in the development of teacher education in Ethiopia, offering resources and expertise that have supported substantial progress. However, for Ethiopia to maximize the benefits of these contributions, it will be essential to continue integrating local perspectives and ensuring that international initiatives are adapted to the country's unique context.

Summary

Table 1 below provides a structured and chronological summary of the historical evolution of teacher education in Ethiopia, tracing its development from traditional religious foundations to the contemporary period. The table delineates key transformations across six major political eras—Pre-Modern, Menelik II, Haile Selassie, the Derg regime, the EPRDF period, and the Current Era. For each period, it outlines the core focus of teacher education content, prevailing pedagogical philosophies, institutional organization of teacher training, and the primary challenges encountered. This synthesis underscores how teacher education has continuously evolved in response to sociopolitical dynamics, national reforms, and global educational trends, while also revealing persistent structural and contextual challenges that have influenced the emergence of a coherent and contextually relevant teacher education system in Ethiopia.

Table 1:

Evolution of Teacher Education in Ethiopia: Shifts in Content, Pedagogy, Organization, and Challenges

Historical Period	Content Focus	Pedagogical Approach	Organizational Structure	Key Challenges
Pre-Modern Era (Pre-1908)	Religious instruction (Bible, Ge'ez,	Apprenticeship model, oral transmission, rote memorization	Informal teacher preparation in churches/monaste	Exclusivity, lack of secular or scientific content, gender exclusion,

Historical Period	Content Focus	Pedagogical Approach	Organizational Structure	Key Challenges
	liturgy, chant, poetry)		ries led by senior clergy (Yeneta)	oral/non-standard curriculum
Menelik II Era (1908–1930)	Introduction of secular content (basic sciences, languages, arithmetic)	Teacher-centered, missionary influence, didactic approaches	First modern school (1908); beginning of structured teacher training; foreign educators and missionaries	Urban concentration, limited local expertise, inadequate infrastructure
Haile Selassie Era (1930–1974)	Expansion of modern subjects; moral and civic education added	Structured pedagogy, early student-teacher practicum, top-down reforms	Establishment of teacher training institutes (e.g., Addis Ababa Teachers' College, Faculty of Education)	Urban bias, theoretical focus, weak linkage to classroom realities, dependence on foreign models
Derg Regime (1974–1991)	Marxist-Leninist ideology, technical/vocational training	Ideological instruction, collectivist and authoritarian methodology	Centralized curriculum; expanded TTCs nationwide; military-style teacher roles	Ideological bias over pedagogy, teacher politicization, centralized rigidity, weak critical thinking
EPRDF Era (1991–2018)	Competency-based education, critical thinking, CPD, localized curriculum	Shift to student-centered learning, integration of PCK and practicum	TESO reform (2002); PGDT for secondary; TTC expansion; decentralized teacher education governance	Uneven reform execution, regional inequality, lack of alignment with school curriculum
Current Era (2019–Present)	21st-century skills, digital literacy, indigenous knowledge, vocational skills	Blended pedagogy (TPCK, reflective teaching, formative assessment)	National Teacher Education Framework (2024); levels-based qualification (certificate, diploma, degree)	Implementation gaps, resource scarcity, misalignment between training and classroom realities

Conclusions

As can be understood from the discussions above, the evolution of teacher education in Ethiopia reflects a complex interplay of historical, political, and cultural factors that have shaped its current form. From its roots in religious instruction to its modernization under various regimes,

Ethiopian teacher education has undergone significant reforms aimed at improving educational quality and relevance. While strides have been made, challenges remain, including resource limitations, quality disparities, and the need for continuous professional development. Today, Ethiopia's teacher education system is more diverse and structured, yet it requires on-going reforms to align with the nation's evolving educational goals and international standards.

The development of teacher education in Ethiopia underscores the importance of adapting to societal needs while retaining a sense of cultural identity. As Ethiopia continues to prioritize education as a tool for national development, the role of teachers remains crucial. Ensuring that teacher education programs are well-aligned with local contexts and global best practices will be essential for fostering a robust educational system capable of addressing both current and future challenges.

The evolution of teacher education in Ethiopia has significant implications for policy, practice, and future research. For policymakers, the historical progression underscores the need for adaptable and contextually relevant education policies that address the diverse needs of Ethiopian society. Teacher education institutions must consider both the socio-cultural contexts and the increasing demand for competency-based and student-centered pedagogies. Furthermore, integrating technology and addressing regional disparities in teacher training are critical for meeting the country's development goals. This calls for on-going investment in resources, infrastructure, and professional development to support educators effectively.

References:

Abate, T. (2020). Education and Social Change in Ethiopia: Historical Perspectives and Implications. Addis Ababa University Press.

Abebe, W., & Woldehanna, T. (2013). Teacher Training and Development in Ethiopia: Improving Education Quality by Developing Teacher Skills, Attitudes, and Work Conditions. *Young Lives Working Paper 103*. https://assets.publishing.service.gov.uk/media/57a08a2c40f0b64974000474/yl-wp103-abebe-woldehanna.pdf

Abebe, W., & Woldehanna, T. (2021). Educational reforms and their impact on teacher education in Ethiopia. *Education Research Journal, 15*(4), 345-356.

Abune, G. (2020). Religious Influence on Early Ethiopian Education: The Legacy of the Orthodox Church. Addis Ababa University Press.

Adamu, A., & Haile, B. (2020). Challenges and Opportunities in Teacher Education in Ethiopia. *Journal of Education and Practice, 11*(4), 123-135.

Alemayehu, M. (2019). Traditional Pedagogy vs. Student-Centered Approaches in Ethiopian Degree Programs: A Comparative Study. *International Journal of Educational Reform, 26*(4), 201-218.

Alemu, G. (2015). Challenges of Implementing the Teacher Education System Overhaul (TESO) in Ethiopia. *Ethiopian Journal of Education, 28*(2), 95-115.

Alemu, M. (2016). Barriers to Formative Assessment Implementation in Ethiopian Teacher Education. *Journal of Educational Assessment and Evaluation, 20*(2), 87-101.

Altbach, P. G. and Kelly, G. P. (1978). Education and colonialism [Paper]. Longman

Amare, A. (2006). The History of Modern Education in Ethiopia. Addis Ababa University Press.

Amare, G. (2019). Teacher Education Reform in Ethiopia: Progress and Challenges. *Ethiopian Journal of Education, 32*(1), 22-38.

Areaya, S. (2008). Multidimensional roles of teachers: Context and policy implication for secondary teacher education in Ethiopia. *IER FLAMBEAU*, *15*(2), 1-43.

Areaya, S. (2016). Secondary Teacher Education in Ethiopia: Top-Down Reforms and Policy Implications. *The Ethiopian Journal of Education*, *36*(1), 1-45. https://www.jstor.org/stable/pdf/48815867.pdf

Areaya, S. (2019). Policy Formulation: Curriculum Development and Implementation, Lesson Learned from Curriculum Implementation in Ethiopia. LAP LAMBERT Academic Publishing, Mauritius

Asfaw, D. (2017). Traditional Teaching Methods of the Ethiopian Orthodox Church Schools. *Ethiopian Historical Review, 8*(2), 91-110.

Asgedom, A. (2015). The Scope and Limitations of Teacher Training Programs in Ethiopia: A Focus on Diploma Programs. *Ethiopian Journal of Educational Studies, 29*(1), 83-94.

Asgedom, A. (2020). Examining the Implementation of TESO: A Critical Analysis. *Journal of Ethiopian Studies, 38*(2), 87-102.

Ashcroft, K., & Rayner, P. (2011). Ethiopian Higher Education: A History of Expansion and Change. Addis Ababa University Press.

Assefa, G. (2012). The Influence of Western Education on Ethiopian Teacher Training: A Critical Review. *Ethiopian Journal of Educational Development, 18*(2), 85-102.

Assefa, M. (1991). Vocational Education in Ethiopia: Reforms and Realities under the Derg. *Educational Development Review, 7*(1), 45-57.

Bekele, G. (2010). Assessing the Effectiveness of the TESO Reforms in Ethiopian Teacher Training Colleges. *Education Policy Review, 7*(1), 33-49.

Bekele, G. (2015). Evaluating Postgraduate Teacher Training in Ethiopia: Relevance, Accessibility, and Outcomes. *Journal of African Educational Research, 32*(1), 23-45.

Berhanu, K. (2012). The Role of GIZ in Rural Teacher Training Programs in Ethiopia. *Journal of African Development, 15*(2), 127-139.

Berhanu, K. (2018). Mindset and Pedagogical Transformation in Ethiopian Teacher Education: Challenges and Opportunities. *Journal of Ethiopian Educational Change, 22*(1), 101-117.

Beyene, S. (2016). Teacher Education in Ethiopia: Historical Context and Development. *Journal of Ethiopian Studies, 52*(1), 45-68.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Cochran-Smith, M., & Lytle, S. L. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education, 24*, 249–305. https://doi.org/10.2307/1167272

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approach* (4th ed.). Sage Publications.

Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary programs*. Jossey-Bass.

Demeke, A. (2018). Challenges of Implementing International Educational Standards in Ethiopia: A Case Study of UNICEF and UNESCO Programs. *International Journal of African Education, 17*(2), 133-150.

Demeke, G. (1999). Educational Reforms and Challenges in Socialist Ethiopia: A Critical Review of Teacher Training Programs. *Ethiopian Journal of Educational Review, 5*(3), 51-68.

Eshetu, A. (2014). Future Directions for Teacher Training in Ethiopia: Improving Quality and Practicality in Teacher Education Programs. *Ethiopian Journal of Teacher Education, 16*(2), 91-110.

Eshetu, A. (2018a). Teacher Training in Ethiopia: Reflections on Policy and Practice. *Journal of Ethiopian Studies, 29*(4), 145-162.

Eshetu, A. (2018b). Bridging the Gap Between Theory and Practice in Ethiopian Teacher Education Programs. *Ethiopian Journal of Pedagogical Development, 15*(3), 53-67.

Eshetu, G. (2014). Teacher Education and Professional Development in Ethiopia: Trends, Issues, and the Way Forward. *Journal of Education and Practice, 5*(10), 13-21.

Ethiopian Ministry of Education. (2007). *Education Sector Development Program IV*. Addis Ababa: Government of Ethiopia.

Ferede, M. K., Abebe, W. Y., & Tefera, Z. A. (2021). Technology integration in education: Evaluating the readiness of Ethiopian schools for digital literacy programs. *Computers & Education*, 17(1), 1–18.

Fullan, M. (2007). *The New Meaning of Educational Change* (4th ed.). New York: Teachers College Press.

Gebre, A. (2015). Cultural Considerations in Donor-Funded Teacher Training Programs: An Analysis of USAID Projects in Ethiopia. *Comparative Education Review, 43*(3), 264-278.

Gebre, H. (2006). Teachers as Agents of State Ideology: The Case of the Derg Era in Ethiopia. *Ethiopian Journal of Sociology and Education, 15*(2), 73-88.

Gebrehiwot, Y. (2019). Resource Constraints and Pedagogical Innovation in Ethiopian Teacher Training Institutions. *Journal of African Educational Studies, 29*(3), 165-179.

Getachew, M. (2021). Modernization and Education Reform in Ethiopia: Impacts on Teacher Training. *Journal of African Educational Studies, 12*(2), 34-51.

Getahun, S. (1998). Political Indoctrination in Ethiopian Education under the Derg. *African Studies Quarterly, 9*(3), 112-130.

Hailemariam, S. (2014). Balancing International Influence and Local Needs in Ethiopian Teacher Education. *Journal of Comparative and International Education, 18*(1), 33-49.

Hailemariam, S. (2016). Educational Psychology and Classroom Management in Ethiopian Teacher Training Programs. *Journal of African Educational Studies, 23*(4), 143-158.

Harris, A. (2014). Interdisciplinary Approaches in Teacher Education. *Education Review, 16*(3), 210-225.

Hill, H. C., Rowan, B., & Ball, D. L. (2005). Effects of teachers' mathematical knowledge for teaching on student achievement. *American Educational Research Journal, 42*(2), 371–406. https://doi.org/10.3102/00028312042002371

Hoot, J. L., Szente, J., & Mebratu, B. (2004). Early education in Ethiopia: Progress and prospects. *Early Childhood Education Journal*, *32*(1), 3–8. https://doi.org/10.1023/B:ECEJ.0000039637.29327.d2

Levine, D. N. (1974). *Greater Ethiopia: The evolution of a multiethnic society*. University of Chicago Press.

Markakis, J. (2011). *Ethiopia: The last two frontiers*. James Currey, an imprint of Boydell & Brewer.

McClellan, C. (1988). State Transformation and National Integration: Gonder and Begemder, 1941-74. *Journal of African History*.

Mekonnen, D. (2008). Reflections on the Teacher Education System Overhaul (TESO) program in Ethiopia: Promises, pitfalls, and propositions. *Journal of Educational Change*, *9*(3), 281–304. https://doi.org/10.1007/s10833-008-9070-1

Mekonnen, D. (2009). Teacher Education Challenges in Ethiopia: An Overview. *Educational Studies in Africa, 10*(2), 111-127.

Mekonnen, D. M. (2023). The pedagogy of teacher education in Ethiopia: Reconstructing understandings and practices on teaching about teaching and learning to teach. *Bahir Dar Journal of Education*, *23*(2), 47–72. https://doi.org/10.4314/bdje.v23i2.3

Mekuria, T. (2015). Educational Development in Ethiopia: The Role of Teacher Training Institutions. *Journal of Ethiopian Studies, 21*(1), 67-82.

Melese, S., & Tadege, A. (2019). The Ethiopian curriculum development and implementation vis-à-vis Schwab's signs of crisis in the field of curriculum. Cogent education, 6(1), 1633147. https://doi.org/10.1080/2331186X.2019.1633147

Ministry of Education (MoE). (2018). *General Education Quality Improvement Programme for Equity (GEQIP-E): Appraisal Document*. Addis Ababa, Ethiopia. http://documents.worldbank.org/curated/en/258681468023106655

Ministry of Education (MOE). (2023). Digital Technology for Education Sector Transformation (D-TEST): Strategic Framework. Government of Ethiopia. https://www.dpgethiopia.org/wp-content/uploads/2024/03/Digital-Education-Strategy-and-Implementation-Plan-for-Ethiopia-.pdf

MOE. (2018). *Education Statistics Annual Abstract*. Addis Ababa, Ethiopia. https://moe.gov.et/resources/annual-abstract/4

MOE. (2022). *General Education Curriculum Framework: Curriculum Framework for Teacher Education*. Addis Ababa. https://ethiopianstoday.com/wp-content/uploads/2022/10/Ethiopian-Teacher-Education-Curriculum-Framework-Final-Draft_Jan_2022_3.pdf

Molla, T. (2013a). Education, Ideology, and the State in Ethiopia: The Derg's Influence on Teacher Training. *Journal of African Educational Studies, 22*(4), 201-218.

Molla, T. (2013b). Education, Reform, and Challenges in Ethiopia: An Analysis of Post-Socialist Policies and Their Impact on Teacher Education. *Comparative Education Review, 47*(4), 567-589.

Mulugeta, B. (2015). Challenges of Resource Allocation in Rural Teacher Training Colleges in Ethiopia. *African Journal of Educational Research, 31*(1), 92-106.

Negash, M. (2017). Historical Development of Teacher Education in Ethiopia. Addis Ababa University Press.

Negash, M. (2020). The Impact of Teacher Education Reform on Student Achievement: The Case of Ethiopia. *African Education Review, 11*(2), 199-214.

Negash, T. (1996). Rethinking Education in Ethiopia. *Nordiska Afrikainstitutet*.

Negash, T. (2006). USAID and Educational Development in Ethiopia: Impacts on Teacher Training. *Ethiopian Education Review, 23*(4), 78-95.

Negash, T. (2020). Assessment Reform in Ethiopian Teacher Education: Moving Towards Formative Practices. *Comparative Education Review, 44*(2), 198-214.

Niguse, D. (2022). Reforms in the Ethiopian Teachers' Training Programme and its Implication on Education Quality. Educational Research Association. The International Journal of Research in Teacher Education, Vol. 13, No. 4: pp. 44-55

Pankhurst, R. (1968). *Economic History of Ethiopia, 1800–1935*. Haile Selassie I University.

Pankhurst, R. (1972). *Education in Ethiopia: A History of Ethiopian Education from Early Times to 1974*. Addis Ababa University Press.

Paulos, M. (2007). Challenges in Ethiopian Teacher Education: Perspectives from a Modernizing Nation. *International Journal of African Educational Studies, 14*(3), 112-128.

Schleicher, A. (2012). *Preparing teachers and developing school leaders for the 21st century: Lessons from around the world*. OECD Publishing. https://doi.org/10.1787/9789264174559-en

Semela, T. (2014a). Teacher preparation in Ethiopia: A critical analysis of reforms. *Cambridge Journal of Education, 44*(1), 113–145. https://doi.org/10.1080/0305764X.2013.860080

Semela, T. (2014b). Teacher Education in Ethiopia: Growth and Development after the TESO Reforms. *Journal of Education for Teaching, 40*(3), 347-361. http://dx.doi.org/10.1080/0305764X.2013.860080

Sergew, H. (1972). *Ancient and Medieval Ethiopian History to 1270*. United Printers.

Seyoum, Y. (2016). Educational Reforms in Ethiopia: The Role of Policy and Political Context. *International Journal of Educational Development, 23*(1), 81-94.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1–22. https://doi.org/10.17763/haer.57.1.j463w79r56455411

Tadesse, S. (2017). From Lecturing to Facilitation: The Transition to Student-Centered Pedagogy in Ethiopia. *International Journal of Instructional Methods, 8*(2), 55-72.

Tadesse, T., & Melese, W. (2016). The Prevailing Practices and Challenges of Curriculum Reform in Ethiopian Higher Education: Views and Responses from Within. Australian Journal of Teacher Education, 41(10). https://doi.org/10.14221/ajte.2016v41n10.6

Tareke, G. (2000). Ethiopia under the Italian Occupation: The Impact on Education and Culture. *Ethiopian Journal of History, 6*(1), 48-63.

Taye, T. (2013). Teacher Training for Primary Education in Ethiopia: Challenges and Prospects. *Journal of African Education, 22*(2), 147-165.

Tefera, S. (1996). Attempts at educational reform in Ethiopia: A top-down or a bottom-up reform? Ethiopian Journal of Education, 16(1), 1–37

Teferra, D. (2011a). Continuous Professional Development in Ethiopian Education: TESO's Role and Impact. *International Journal of African Education, 15*(2), 209-225.

Teferra, D. (2011b). UNESCO's Influence on Teacher Education in Ethiopia: A Historical Review. *Journal of African Educational Studies, 22*(3), 195-213.

Tekeste, N. (1990). The Crisis of Ethiopian Education: Some Implications for Nation Building. *Uppsala University Press*.

Teklehaimanot, B. (2018). The Role of the Ethiopian Orthodox Church in Early Education. *Journal of Ethiopian Studies, 54*(1), 45-62.

Teklehaymanot, H. (2013). *Religious Influence on Ethiopian Education: A Historical Perspective*. Journal of Ethiopian Studies, 45(2), 67-89.

Teshome, A. (2007). Education and Society in Ethiopia: A Historical Analysis. Hawassa University Publishing.

Teshome, A. (2014). Competency-Based Teacher Education: An Ethiopian Perspective. *Educational Research and Reviews, 9*(23), 342-348.

Teshome, G. W. (1979). *Education in Ethiopia: Prospects and Retrospects*. University Press of America.

Teshome, W. (2001). Centralization and Its Impacts on Teacher Training in Ethiopia. *International Journal of African Educational Research, 11*(2), 120-135.

Teshome, W. (2010a). The Role of Teacher Education in National Development: The Case of Ethiopia. *Journal of Education and Practice, 1*(1), 45-53.

Teshome, W. (2010b). Laboratory Schools in Teacher Education. *Ethiopian Journal of Education, 26*(2), 67-85.

Tessema, G. (2014). Curriculum Reforms in Ethiopian Teacher Education: An Analysis of Content and Relevance. *Ethiopian Journal of Teacher Education, 19*(2), 81-95.

Tessema, K. A., & Tadesse, W. M. (2020). Teacher education in Ethiopia: Reviewing the past, present and envisioning the future. *Journal of Teacher Education for Sustainability, 22*(2), 79–98. https://doi.org/10.2478/jtes-2020-0016

Tibebu, T. (1995). "The Making of Modern Ethiopia: 1896-1974." The Red Sea Press.

Tiruneh, G. (2013). UNICEF and Inclusive Education in Ethiopia: Contributions to Teacher Training and Child-Friendly Schools. *Ethiopian Journal of Education, 29*(1), 45-58.

UNESCO. (1964). *Report on the Development of Teacher Education in Ethiopia*. UNESCO Publications.

UNESCO. (2005). *Education for All Global Monitoring Report 2005: The Quality Imperative*. Paris: UNESCO.

UNESCO. (2015). *Teacher policy development guide: Summary*. Paris: United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000233221

UNESCO. (2016). *Education for People and Planet: Creating Sustainable Futures for All*. *Global Education Monitoring Report*. Paris: UNESCO.

UNESCO. (2023). Supporting Mental Health and Psychosocial Support for Teacher Educators and School Leaders. Retrieved from https://unesdoc.unesco.org/ark%3A/48223/pf0000387380

USAID. (2010). Impact Assessment of USAID's Education Program in Ethiopia 1994-2009. (2010). U.S. Agency for International Development [USAID]. Retrieved from https://pdf.usaid.gov/pdf_docs/PDACR755.pdf

Wagaw, T. (1999). *Education in Ethiopia: From Crisis to the Brink of Collapse*. Michigan State University Press.

Wolde, D. (2021). Professional Development for Teachers in Ethiopia: Challenges and Prospects. *Journal of Teacher Education, 33*(1), 104-118.

Wolde, T. (2017). Challenges of Implementing Practicum in Ethiopian Teacher Training Universities. *Journal of Ethiopian Education, 34*(2), 55-70.

Woldegiorgis, T., & Doevenspeck, M. (2015). Education Policy and Reforms in Ethiopia: The TESO Experience. *Comparative Education Review, 49*(3), 218-235.

Wolff, E. (2011). British Council's Role in Teacher Training in Ethiopia: A Focus on English Language Education. *African Journal of Education and Language Studies, 19*(3), 89-105.

World Bank. (2004). *Ethiopia: Education Sector Study*. Washington, D.C.: World Bank.

World Bank. (2008). *Higher Education in Sub-Saharan Africa: Challenges and Opportunities*.

World Bank. (2017a). Ethiopia General Education Quality Improvement Project II: Implementation Status & Results Report. Retrieved from https://documents1.worldbank.org/curated/en/735421516834461250/pdf/Disclosable-Version-of-the-ISR-Ethiopia-General-Education-Quality-Improvement-Project-II-P129828-Sequence-No-09.pdf

World Bank. (2017b). Building a Strong Foundation to Improve Learning Outcomes in Ethiopia. Retrieved from https://www.worldbank.org/en/news/feature/2024/09/05/building-a-strong-foundation-to-improve-learning-outcomes-in-afe-ethiopia

Yizengaw, T. (2005). Policy Initiatives in Ethiopian Higher Education: The Case of Teacher Training. *Ethiopian Journal of Education, 21*(3), 112-126.

Yizengaw, T. (2005b). Transformation in Ethiopian higher education. *Higher Education Quarterly*, 59(1), 31–42. https://doi.org/10.1111/j.1468-2273.2005.00289.x

Yizengaw, T. (2007). The Role of the World Bank in Ethiopian Education: Infrastructure and Outcomes. *Ethiopian Journal of Educational Research, 34*(2), 107-123.

Yizengaw, Y. (2019). From Policy to Practice: Reflections on Ethiopian Teacher Education Reforms. *Ethiopian Journal of Development Studies, 15*(2), 65-79.

Zewde, B. (2001). A history of modern Ethiopia: 1855–1991 (2nd ed.). Ohio University Press. https://doi.org/10.1515/9781782049869

Economics of Higher Education Financing: Exploring the Interplay between System and Capacity in Ethiopian Public Universities

Akalewold Andargu Gashe [*1], *Enguday Ademe*[2] *and Woube Kassaye*[3]

[1] PhD Candidate, Department of Curriculum and Comparative Studies, Addis Ababa University, Ethiopia
[2] Professor, Department of Curriculum and Comparative Studies, Addis Ababa University, Ethiopia;
[3] Associate Professor, Department of Curriculum and Comparative Studies, Addis Ababa University, Ethiopia
* Corresponding Author: akaleargu@gmail.com

DOI: https://doi.org/10.63990/ejtel.v2i2.12447
Received: Feb 27/2025; Revised: May 19, 2025;
Accepted: July 28, 2025

Abstract:

The study explores the interplay between the system and the capacity of HEIs in Ethiopia. We have conceptualized their interaction through the lens of "systems theory." The study employed the document analysis method. Two education and training policies, two higher education proclamations, and forty-four academic journals are accessed using the Google and Google Scholar search engines and databases based on research objectives and research questions. The findings indicated that Ethiopia's higher education system is affected by its economics, which includes the generation, allocation, and utilization of resources. Even though the expansion of higher education has brought numerical gains that increased access to universities and diversified fields of study, this rapid expansion has not been accompanied by proportionate funding increases. Moreover, resource planning, controlling, and monitoring mechanisms in Ethiopian public universities are highly inefficient and affect almost all aspects of institutional activities. The interplay between system and capacity within and across public HEIs is a multifaceted issue that needs systems thinking. It is affected by the regime change, centralized governance, political influence, and lack of financial and personnel resources. Hence, the current Ethiopian HEIs should give attention to the effective and efficient execution of the economics of education financing to prepare competent graduates and competitive universities.

Keywords: Higher education, economics of higher education, higher education financing, system, capacity

Introduction

Higher education (HE) is a crucial mechanism for national and individual socioeconomic advancement, as well as an important driver of economic mobility (Holmes & Mayhew, 2016; US Department of Education (USADoE), 2012). The way the HE system functions and the results it achieves are of high importance for individuals, companies, and governments, as well as for the country at large. Developed countries have given HE a central role in attempting to

achieve a wide range of policy objectives, from improving social mobility (Holmes & Mayhew, 2016) and reducing economic and social inequalities to driving innovation and boosting economic growth (USADoE, 2012). The performance of higher education institutions (HEIs) may be affected by their economics (Nichifor et al., 2021; Ogbonnaya, n.d.). The symbiotic relationship and implementation among resource generation, allocation, and utilization can create a well-established system, which this study termed “Economics of Higher Education (EHE)." In other words, the EHE is all about the "system.” That means EHE is the backbone of the whole system of higher education institutions functions.

The economics of higher education are frequently clouded by the interchangeable use of the terms "cost" and "price" and the hidden nature of the various subsidies inherent in education, including financial aid (Whalen, 2004). Besides, EHE examines how economic principles apply to production, consumption, financing, and the broader impact of higher education. However, the scope of the economics of education has been generally accepted to include the generation, allocation, and utilization of resources for education through the creation of human capital (Nichifor et al., 2021).

***Ethiopian Higher Education**:*

The very first higher education institutions (HEIs), established in pre-modern Ethiopia, were religious and monastic institutions (Lulat, 2005, as cited in Boateng, 2020). Yared Music School, which was established in the fifth century (Bishaw & Melesse, 2017; Boateng, 2020), is ‘the first higher education in the world’ (Bishaw & Melesse, 2017:2) and was formed to train qualified priests in the religious music and dance that characterized their faith. However, modern HE was a relatively young and growing sector in Ethiopia, which began in the mid-twentieth century. In July 1950, Emperor Haile Selassie asked for the help of Jesuit Canadian teachers in establishing a college (Asgedom, 2005; Boateng, 2020; Getaneh et al., 2024).

Nevertheless, modern HE systems in Ethiopia have been impacted by regime change that is characterized by overarching structures such as institutions, governance, policies, and regulations (Boateng, 2020). In the imperial regime, it was more of the western types of colleges and universities (Asgedom, 2005; Boateng, 2020) and established to prepare students for “further overseas study or vocational certificate education” (Boateng, 2020:2). After overthrowing the imperial regime in 1974, the Derg regime expanded the HE systems but directed HEIs based on communist governance with intervention in university affairs such as security surveillance, repression of dissent, mandated courses of Marxism-Leninism, prohibition of students’ organizations, appointment of senior university officers, and control of academic promotion (Bishaw & Melesse, 2017). Boateng (2020) and Getaneh et al. (2024) also discussed that the regime that caused the end of the Derg in 1991 introduced market reforms in the HE system and experienced significant expansion and reform, including increased university

enrollment. Moreover, the new education and training policy (MoE, 2023) and the higher education proclamation No. 1152/2019 (FDRE, 2019) stated that the objectives of current HEIs will be required to prioritize, promote, and enhance research focusing on knowledge and technology transfer consistent with the country's priority needs.

Currently, there are about 49 government-funded public HEIs (Bekele et al., 2023), of which 46 public universities are accountable to the EFDRE Ministry of Education (HESAA, 2024); the Ethiopian Police University is accountable to the Ethiopian Federal Police Commission; the Ethiopian Defense University is accountable to the Ministry of Defense; and St. Paul's Hospital Millennium Medical College is accountable to the Ethiopian Federal Ministry of Health. There has been a rapid expansion in the development of the HE infrastructure (institutions and facilities), qualified human resources, the enrollment rate, and the graduation rate in the higher education of the country (MoE, 2018). Besides, there has been a significant expansion of Ethiopian HE system, harmonization of undergraduate curricula, and introduction of modular teaching in the last two decades.

Higher Education System

The HE system doesn't function in a vacuum. It requires leadership, institution building, and intended curricula (Holmes & Mayhew, 2016; Toutkoushian & Paulsen, 2016). According to Hudock et al. (1995), institutions include organizations and values, and he thought that an organization would be referred to as an "institution" if it were carrying out a particularly beneficial activity for society while advancing "social change" or "modernization." In this regard, institution building is a process in organizations in settings that need to adapt (Blasé, 1986). Along with political, economic, and cultural shifts, it entails strengthening governance, developing a legal and regulatory framework, and establishing a stable financial system (Mandal, 2009; Ramachandran, 2014). If the institution reshapes in such a way, it moves one step towards its autonomy.

HEIs are more than institutions. They are responsible for generating knowledge, preparing competent graduates, conducting research for societal change, creating value, and working closely with communities (Asgedom, 2005; Boateng, 2020; MoE, 2023). Consequently, HEIs as institutions are built to improve the functioning of societies by strengthening or changing "institutional software' (Hudock et al., 1995). Generally, HE institution building is the synchronization of constructs (proclamations, regulations, rules, principles, programs, and curriculum), structure (physical and human resource structure), leadership, and its mission. In this regard, the first and foremost task of the university is to make a stable institution, deliver quality education, produce competent graduates, excel in community reform, and contribute to the development of the country. Especially if leaders of HEIs are capable, responsible, and

committed, then they would convert theories, constructs, and principles into practices. In most cases, leadership, capacities, and curriculum are implicitly presented in HE institution building.

Higher Education Capacity

Capacity in higher education would be the issue of competitiveness. Institutions can offer quality education, conduct impactful research, and meet the needs of students and society. It includes factors like governance and policy (Qudratova, 2024; Soboliev & Sobolieva, 2021), infrastructure and technology (Getaneh et al., 2024), faculty quality (Kumar, 2017), curriculum, resources, and management by and large competent leaders (Theisen, 2004). Consequently, higher education capacity in Ethiopia is the ability to enroll reasonably high number of students, develop qualified staff, provide adequate infrastructure, ensure quality governance, and secure sustainable funding.

Generally, the HE system does not mean the physical appearance of the institutions; rather, it means the duties and responsibilities stated in the proclamation. As a result, the purpose of this study is to explore the economics of Ethiopian public higher education financing by considering the interplay between system and capacity (SC) to conceptualize their status in the global arena.

Theoretical Framework

The interconnection of the system and capacity needs theoretical narration, and the popular theory helpful for understanding the interplay between system and capacity is "Systems Theory." The systems theory perspective can be used to analyze how established norms can provide a high-quality university education (Stichweh, 2018). It is analogous to the education production function, that education has a high-priority function in the development of human resources. The production functions are a relationship between the amount of input and intervening factors to produce competent graduates while considering their quality. The educational inputs are resources, teacher quality, student characteristics, other intervention factors, and the efficient utilization of resources (Glewwe et al., 2020; Khan et al., 2022; Sidik, 2022). This is because the production function (input-process-output) of university education is a system of physical resources, methodologies, procedures, processes, and human resources that collaborate in a specific setting to produce the desired competent learners (John, 2010).

Systems theory can be applied in HE to enhance understanding of complex educational ecosystems as well as improve curriculum development (London et al., 2023). In the HEIs, systems theory is helpful to explore the interplay between system and capacity and play in assuring their quality and performance (Rashidi & Jingura, 2024). A well-structured system of HEIs provides resources and enhances the capacity of organizations within it.

To show the interplay between system and capacity, Figure 1 was constructed by the authors. It consists of input-process-output relations and how these concepts influence one another in different contexts. The two terms are operationally defined as follows.

The system is all about resource generation, allocation, and utilization that help to achieve the intended purposes.

Capacity refers to the effective and efficient utilization of resources to fulfill their educational mission.

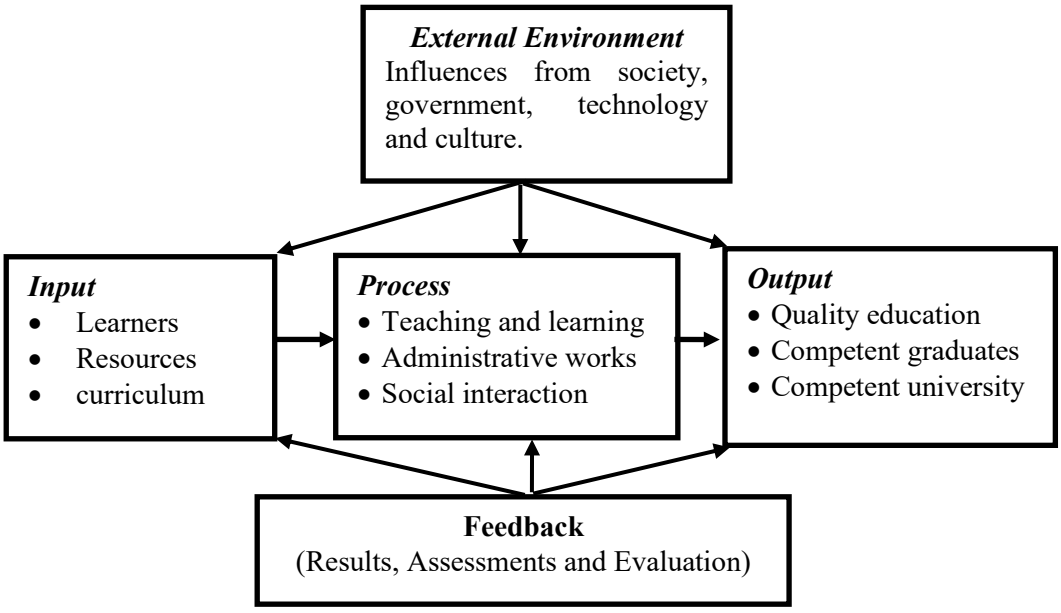

Figure 1: *Theoretical Interconnections between system and capacity*

Purpose:

This study aims to explore the interplay between system and capacity, and the specific objectives are to explore how the EHE functions in public universities, analyze the synchronization of the system of Ethiopian higher education to carry out its tasks, identify the factors that hinder the capacity of HEIs in Ethiopia, and explore interconnections between SC in HEIs. To address these specific objectives, four basic questions are formulated.

1. How does the economics of higher education in Ethiopia function?
2. Is the system of Ethiopian higher education synchronized to carry out its tasks?
3. What are the factors that hinder the capacity of HEIs in Ethiopia?
4. How do the interconnections between system and capacity manifest in HEIs?

Methods and Materials

Methods

This study employs a qualitative document analysis method to conceptualize the interplay and the effect of the variables (SC). Bowen (2009) states that document analysis is a systematic procedure in which data are examined and interpreted from documents to elicit meaning, gain understanding, and develop empirical knowledge.

Materials and Procedures

Procedurally, the analysis follows the inductive approach to addressing questions related to each variable and then the question related to the interplay between the variables. In doing so, the

Table-1
Process of Conducting Document Analysis

Process	Actions	Details
1. Purpose	To explore how the EHE functions in public universities To analyze the synchronization of the system of Ethiopian higher education to carry out its tasks To identify the factors that hinder the capacity of HEIs in Ethiopia To explore interconnections between SC in HEIs.	By thoroughly analyzing and synthesizing of documents, challenges and opportunities are identified and meanings are constructed.
2. Selection	Education and training policies of post-1991, two higher education proclamations, national and international academic journals are selected and analyzed.	Words, phrases, constructs, and concepts are extracted to conceptualize the interaction.
3. Inclusion	The documents are selected based on the objectives of the study and the timeframe	Documents and journals post-1991 are included
4. Categorization	Contents related to basic questions are categorized and organized under four topics.	Contents from the document break down into meaningful categories or sections based on research questions.
5. **Analysis**	The contents from policies, proclamations, and research output are broken down and examined.	The contents are analyzed for key themes, structure, and patterns. Look for arguments, biases, and inconsistencies.
6. Interpretation	Discussion has been done, and conclusions have been drawn.	The findings are interpreted about the research objective and then conclusions are drawn.

Source: *Extracted by authors from: Karppinen & Moe, 2019; Morgan, 2022; and Tang, 2005*

keywords/phrases such as 'higher education, economics of higher education, higher education financing, system, governance, and capacity' were used to search for articles and policy

documents in Google and Google Scholar. A total of forty-four academic journals, two education and training policies (1994, 2023), and two higher education proclamations (FDRE, 2019, FDRE, 2023) were accessed and screened based on the specific research objectives and the research questions for analysis. The analysis was done by the process presented in Table 1.

Results and Discussions

This part briefly analyzes and presents the economics of HE (resource generation, allocation, and utilization), the synchronization of the system of higher education to carry out its tasks, the factors that hinder the capacity of HEIs, and the interplay between system and capacity in Ethiopian higher education. The analysis is based on the systems theory model, particularly the general systems theory model developed by Ludwig von Bertalanffy in 1968 (Dissanayake & PMP, 2021). This theory emphasizes holistic perspectives and focuses on understanding the relationships and interdependencies among various components of the HEIs. The general systems theory perspective can examine the provision of quality university education through the continuation of established standards (Richard, 2020). This is because the system for producing university education involves human resources, physical resources, methods, procedures, and processes working together in a definite environment to bring desirable outputs (competent HEIs and competent graduates).

Economics of Higher Education

How does the economics of higher education financing in Ethiopia function?

In its global sense, the economics of education could aim to ensure efficiency in the allocation and utilization of resources. Specifically, it is the practice of resource generation, allocation, and utilization, and their relationship within education (Mekonnen et al., 2024; Ogbonnaya, n.d.; Wata et al., 2020).

For many universities in Ethiopia, government funding is the main source of income (Getaneh et al., 2024; Zekarias, 2023). The funding is through block grants that are based on student enrollment, staff population, discipline aggregation, the context of institutions, and their previous year's budget utilization (Abate, 2013; MoE, 2018; World Bank, 2022).

In 2018/2019 (2011 E.C.), the government’s share in education spending is greatest at the post-secondary level, both in amount (49 billion Birr) and in share (94 percent of all funding at this level). 40 percent of all public education funding and 14 percent of all household expenditures on education are for post-secondary, whereas higher education accounts for only 3 percent of total enrollment (approximately 805,000 students out of a total enrollment of 26 million) (World Bank, 2022).

According to the Ministry of Finance budget document and Cepheus Research compilation, the government of Ethiopia allocated 66.06 billion Birrs in 2021/22, 64.76 billion Birrs in 2022/23, and 55.77 billion Birrs in 2023/24 for education (Cepheus Research Analytic, 2023:11). Among these, 61.41 billion Birr in 2021/22, 61.4 billion Birr in 2022/23, and 51.55 billion Birr in 2023/24 are allocated to HEIs. These allocations are lower than average for the sub-Saharan Africa region. Moreover, studies revealed that HEIs in Ethiopia are underfunded and face multiple challenges (Getaneh et al., 2024). Getaneh and colleagues also explained that the quality, relevance, academic freedom, and equity of education are superficial across the HE system in Ethiopia. Besides, there are still various questions raised on the quality of higher education, the issue of freedom of HEIs, and the reduction of the growth enrollment rate of students in universities.

From the funding, more attention is given to capital budgets, which are rated as 60:40 to the recurrent budget share (MoE, 2018). Proclamation No. 1152/2019 also noted that the universities may have the source of income from the service it rendered, the activities it carried out, voluntary contributions made by the staff of the institutions, donations, and lawful sources of income.

Over the last ten to fifteen years, there have been significant increases in the number of universities and student enrollments in Ethiopia, but they have also led to challenges such as quality concerns, inadequate resources, and increased workload for staff (Abebe, 2014; Getaneh et al., 2024). Getaneh and his colleagues noted that numerical gains have increased access to universities and diversified fields of studies. This rapid expansion has not, however, been accompanied by proportionate funding increases.

Nonetheless, HE is essential to a knowledge economy since it creates, disseminates, and transfers knowledge (Zekarias, 2023). It is a major force behind economic mobility in our society and supports the socioeconomic growth of candidate people. Mekonnen et al. (2024) and USADoE (2012) pointed out that a country's higher education system is what pushes its economic growth and advancement. Educated people are more creative, more productive, and have greater incomes. Additionally, they are more capable of managing economic shocks (Molla, 2023).

Higher education funding in Ethiopia is typically not correlated with learning outcomes or research outputs that address problems. Research, technological transfer, and community activities are largely neglected in favor of teaching and learning. Less than 1% of the entire university funding goes toward direct research (MoE, 2018). The education and development roadmap states that one of the key factors influencing a nation's decision to become a middle-income nation by 2025 is research and development. Nevertheless, the studies showed that HEIs have a very small budget and that it is difficult to attract workers to work on research and

technology development that can address the nation's development issues (Abate, 2013; Gelaye & Chali, 2021).

Regarding budget allocation and utilization, studies have also shown that Ethiopian public universities' resource utilization and generation controlling procedures are extremely inefficient, impacting nearly every facet of institutional operations (Gelaye & Chali, 2021; Mesfin, 2017). According to these studies, universities face significant challenges in managing and using their resources. For example, their monitoring and evaluation methods are inadequate, and their procurement has not been transparent or planned. This led to their ineffective use of the available resources, wasteful procurements, poor service management, and massive resource waste (Gelaye & Chali, 2021; Mesfin, 2017). This misappropriation of public money may indicate that universities have not put in place adequate processes for supervising or managing them.

The other crucial resources that harmonize the work of HEIs are human resources which are as vital as financial resources. HEI human resources management is a complex and multifaceted process that requires considering numerous factors, from academic specifics to regulatory requirements (Xudoynazarovich, 2024). Effective human resource management in higher education plays a critical role in achieving the strategic goals of HEIs, such as improving education quality, advancing research, and enhancing competitiveness. However, numerous challenges arise on the path to these goals, requiring a systematic approach to their resolution. Xudoynazarovich (2024) noted that there are various challenges in managing human resources in HEIs. These challenges are recent young professionals are often uninterested in university employment due to low salaries and a lack of career growth opportunities, lack of motivation and professional development (motivation systems in HEIs are often limited to salaries, which, in most cases, remain below the average labor market level), absence of systematic professional development programs, that negatively affecting staff professionalism, excessive bureaucratization in HEI staff, and lack of workforce planning (Alemayehu, 2024; Teshome, 2018).

Higher Education System in Ethiopia

1. Is the system of Ethiopian higher education synchronized to carry out its tasks?

Modern HE systems in Ethiopia have been impacted by regime change that includes overarching structures such as institutions, governance, policies, and regulations (Boateng, 2020). Studies have shown that the Ethiopian HE system of imperial, Derg, and EPRDF regimes had been characterized by regimented management, conservative intellectual orientation, limited autonomy, very few academic staff with doctorates, declining educational quality, weak research output, and loose connection with the global HE streams (Bishaw & Melesse, 2017; Asgedom, 2005; Boateng, 2020). During these periods, the system had been provided with the

context that the system and its capacity were loosely operated. Even though a well-functioning HE system requires a dynamic and strong interplay between system and capacity, the regime change in Ethiopia over the last seven decades affects the system and capacity of HEIs.

Synchronization of the higher education system is all about harmonizing the software and hardware of the institution. Resources are very critical to improve the system. That means the system of higher education is determined by the provision of resources, their maximum utilization, and management. The software system of HE is an orderly arrangement of ideas [proclamation] about universities and the relationship of their entities, whereas a hardware system is the installation of a software system that contains a set of elements that operate together to accomplish the intended mission. It includes building, leadership, educators, administrators, curriculum, facilities, financial resources, and learners. The two systems work harmoniously like a computer system of hardware and software that function together to accomplish computer processing. A system is not a randomly assembled set of elements; rather, it consists of elements that can be identified as belonging together because of a common purpose.

2. Higher Education Institutions Building:

The institution-building model has been primarily designed for developing countries that have taken the path to modernization, their overriding goals being socio-economic progress and nation-building (Zafarullah, 1980). Zafarullah has identified the major components of the model as (a) a governing, goal-oriented elite that bears the major responsibility for initiating and directing the process of modernizing change; (b) a doctrine, or set of action commitments, that establishes, communicates, and legitimizes norms, priorities, and styles for operating programs; and (c) a set of action instruments through which communication with the community is maintained and operating programs are implemented. In connection, HEIs typically comprise several key components that facilitate their operation, learning, and community engagement (Abdullahi & Yusoff, 2019). One of the components is an academic program that encompasses various undergraduate, graduate, and doctoral programs across different disciplines. It is difficult to think of HEIs without the academic programs. However, global studies revealed that the academic program formulation faces a multitude of challenges related to quality and real-world application (Aldhaen & Mahmood, 2020).

The academic programs are implemented as intended with the help of high-profile academic staff (Breetzke & Hedding, 2018). Academic staff play a crucial role in achieving institutional goals and program missions. Moreover, to achieve institutional goals and program mission there should be spaces equipped with technology for lectures discussions, and group work (Babalola, 2024; Benson et al., 2022). There must also be physical and digital libraries, study spaces, and access to academic journals and databases for learners (Micunovic et al., 2023). Besides,

laboratories and research facilities, student services (Abbas, 2020), governing bodies, and administrative offices responsible for policy-making, budgeting, and overall institutional management are critical to implement the program as intended. These institution-building components work together to create an environment conducive to learning, research, and personal development.

HEIs' building in Ethiopia is not far from the institutional building of HEIs in the global arena. It includes the enhancement of the hardware and software of the institutions. However, studies indicated that Ethiopian HEIs face challenges related to academic program quality and real-world application (Chalchisa, 2014; Getaneh et al., 2024) and effective research practices (Aliye, 2019). Moreover, even though policies and initiatives promote digital infrastructure in HEIs, there is insufficient digital infrastructure due to limited resources, insufficient technological support, conservative academic cultures, poor internet connection, and lack of skilled personnel (Bekele et al., 2024; Yiriga, 2024).

3. Governance of HEIs in Ethiopia:

Governance denotes the structures, relationships, and processes of decision-making concerning issues significant for external and internal stakeholders (Melu, 2017). In this regard, governance in HEIs indicates formal and informal arrangements that permit them to make decisions and perform actions combining both internal and external governance (Yirdaw, 2015). It comprises a complex web, including the legislative framework and the resultant characteristics of the institutions and how they relate to the whole system, how resources are allocated to institutions, and how administrators are held accountable for the way resources are utilized (Melu, 2017; Yirdaw, 2015). It also provides the institutional environment within which the educational system functions.

The governance structure of HEIs that emerges in any country is the outcome of a balance between two contrasting forces. Some countries set up structures that permit the central government's direct control of structures, while others establish barriers between the political administration and the governance system (Gyimah-Brempong, 2011). Hence, the features of the governance structure followed by HEIs determine their outcomes. At all, HEI governance is affected by the lack of financial, personnel, and substantive autonomy (Hailu, 2018). All these factors call for a significant structural change in the governance of the sub-sector. The governance of Ethiopian HEIs should evolve proportionate to the emerging mission and social demand for higher education by reconsidering the current relationship of the state, the HEIs, and the market (Muktar et al., 2021).

Studies also showed that the Ethiopian higher education governance model in the last six decades could be described as the state-centered model (Hailu, 2018). Regardless of changes in

regimes, it did not respond to changes in social demands and the governments' own strategic goals. Hailu also noted that HE's contribution to the economic and social growth of the nation has been stifled. This could be attributed to the governance model the sub-sector adopted in its entire history. There has been rapid expansion of the subsector in the last two decades but the relevance, quality, and outcome of the subsector are being questioned given the deficit skill set and mounting unemployment rate of the graduates.

Above all, governance efficiency is essential for the educational system to generate the desired results that require accountability and transparency, which imply autonomy. Autonomy suggests freedom to make management decisions, such as allocating resources among programs and determining the optimal input combination. The autonomy and the good governance issues and the resultant outcomes emanate from the governance structure installed and exercised accordingly.

Capacities in Public Higher Education

What are the factors that hinder the capacity of HEIs in Ethiopia?

Capacity in higher education institutions refers to the ability of institutions to deliver education effectively and efficiently, conduct research, and contribute to societal development. However, research outputs indicate that HEIs in Ethiopia face several challenges that hinder their capacity. Among these, some key factors include funding constraints (Abate, 2013) and deficiencies in infrastructure, which result in a lack of adequate facilities such as libraries, laboratories, and classrooms, thereby impacting on the quality of education (Oliso, 2023). Moreover, lack of curriculum relevance (the curricula of HEIs did not align with real-world market, industry needs, or global standards), limiting graduates' employability (Teshome & Oumer, 2024); insufficient investment in research and inefficiencies in management and governance (Atanaw et al., 2025); and lack of access to modern technology and digital resources can hinder learning and research capabilities.

HEI governance is the most critical factor that plays a vital role in bringing change. It determines the success of HEIs. The effectiveness of HEIs is influenced by how governance structures are designed and implemented, and by specific administrative and policy-related factors. Atanaw et al. (2025) stated that HEIs' governance encompasses five key principles: accountability, autonomy, academic freedom, transparency, and responsibility. On the other hand, Gebru et al. (2024) noted that the governance structure and models of Ethiopia's HE system are primarily state-centered**,** meaning the government has significant control over decision-making and resource allocation.

According to Atanaw et al. (2025), university governance principles and the relationship between university governance and education in Ethiopian public universities have not been fully optimized. The implementation of university governance principles lags the rapid

expansion of public universities in Ethiopia. He discussed that accountability and responsibility negatively affected the quality of education services of Ethiopian public universities. However, Atanaw et al. (2025), stated that accountability and academic freedom have strong positive correlations with education service quality.

Other studies concluded that the capacity of Ethiopian HEIs is significantly affected by governance factors such as centralized control (Gebru et al., 2024), unclear policies, limited funding, and weak management (Desalegn & Solomon, 2022). Hence, addressing these challenges requires coordinated efforts from the government, educational institutions, and other stakeholders through clearer policies, better resource allocation, and improved leadership, ensuring accountability and responsibility to enhance the overall capacity of HEIs in Ethiopia.

The Interplay between System and Capacity: Challenges and Opportunities

How do the interconnections between the system and capacity demonstrate in Ethiopian HEIs?

This part is the yolk of the study that explores the interplay between system and capacity in Ethiopian HEIs. System and capacity are very important in achieving the outcomes of the university's mission by identifying challenges that the institutions face and the opportunities that help to overcome the challenges. As discussed above, there are studies and policy documents that show there are indicators that point towards the effectiveness and efficiency (outcomes) of HEIs. These indicators are effective allocation and efficient utilization of resources (Abate, 2013; Gyimah-Brempong, 2011); well-articulated policies and proclamations (MoE, 2023; FDRE, 2019; FDRE, 2023); governance and academic programs (Aldhaen & Mahmood, 2020; Melu, 2017; Zeleke & Hirko, 2018); and the issue of responsibility and transparency (Huisman, 2018; World Bank, 2022).

The picture below indicates the interplay of how the system and capacity are functioning to achieve the outcomes (creating competent HEIs that prepare competent graduates).

Figure 2 (next page) demonstrates that the system and capacity are theoretically geared towards the achievement of the intended outcomes (competent HEIs that produce competent graduates). However, external environments such as unclear government policies and limited funds, societal needs, and an ever-changing world due to the advancement of technology and cultural change highly affect the interplay between system and capacity. Moreover, to holistically make the interplay between system and capacity effective and efficient, the input, such as learners, resources, and the intended curricula, should be considered. Particularly, an institution’s resource generation, allocation, and utilization should be effectively managed, controlled, and efficiently utilized.

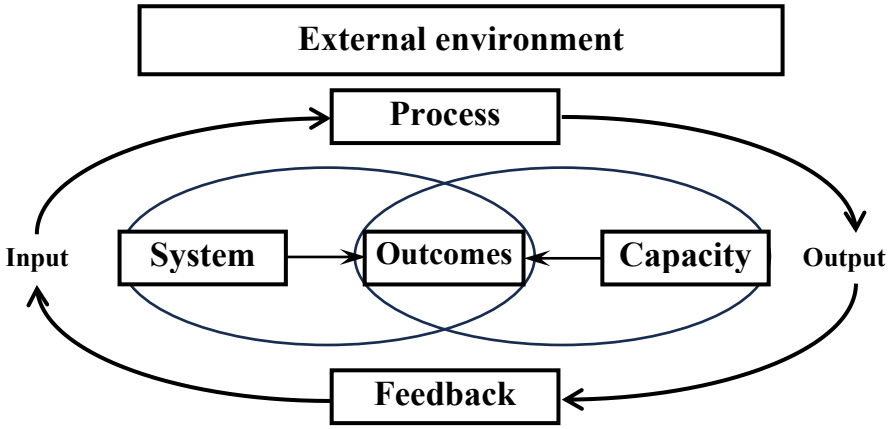

Figure 2: Interplay between the system and capacity.
Sources: *constructed from different sources by the authors.*

Discussions and Conclusions

The relationship between the system and the capacity of higher education in Ethiopia is multifaceted. It emanated from its economics (resource generation, allocation, and utilization), policy directions and governance, leadership and academic programs, quality of teaching and research, and technology transfer (Abebe, 2014; Bekele et al., 2024; Melu, 2017; Getaneh et al., 2024; Yiriga, 2024). However, the modern higher education of Ethiopia is affected by the regime changes that tried to introduce their political ideologies (Asgedom, 2005; Alemu & Matcalfe, 2021; Yallew, 2020) and state-centered control (Gebru et al., 2024). The regime changes and their political intentions over the last seven decades explicitly and implicitly affect the HE system in general and their capacity in particular.

The major components of higher education systems are institution building, governance, and the intended programs. Zafarullah (1980) has identified the elements of the institution-building model as governance and goal orientation, a doctrine or set of actions committed, and a set of action instruments. HE institution building and its governance are highly interconnected. Melu (2017) and Getaneh et al. (2024) discussed that Ethiopian higher education governance faces challenges such as centralized power, limited autonomy, and inadequate resources, which hinder institutional development and quality education. These studies show that the higher education system is affected by the quality of governance and institution building, which influences the types of programs intended. The studies argue that good and committed governance improves institution building, which enhances the education system.

Even though Ethiopian HE has made a positive improvement regarding expansion, infrastructure, gross enrollment rate, academic staff, and budget allocation (Abebe, 2014; Gelaye, 2021; World Bank, 2022), there are still drawbacks in system thinking within the university and across universities, resource allocations and utilizations (Molla, 2023),

governance, academic programs and research qualities (Zeleke & Hirko, 2018), autonomy or freedom of deciding on universities' basic issues such as leader choice, curriculum differentiation, and resource generation and allocation (Gebru, 2013), and accountability (Moti & Yihun, 2024). All these and other drawbacks affect the holistic function of HEIs. That means the interplay among the system and capacity within and across higher education in Ethiopia seems weak.

This study has its own theoretical and practical implications in the current higher education dynamics of Ethiopia. Higher education financing in Ethiopia is a central issue as the country rapidly expands its university system. The implications of current financing approaches affect access, quality, sustainability, and equity in higher education. The dominant theoretical implication is that effective higher education financing in Ethiopia requires both sound economic principles and careful attention to local administrative, political, and social realities (Munyua & Abate, 2013; Thehaynew et al., 2024). It should align with several core economic principles, such as human capital theory, equity and access, efficiency in resource allocation, and cost-sharing models.

Nevertheless, in practice, Ethiopia faces several challenges in financing higher education. According to Lerra (2016) and CRA (2023), the public universities utilized the lion's share of the total budget of the education sector. But the efficiency and quality of education at all levels are still critical. Furthermore, some of the public universities underutilized the budget allocated by the government and returned it to the finance minister (Lerra, 2016). Even though the performance of the university in utilization of allocated budgets and income generation also improved (Lerra, 2016), the total performance of the university in terms of budget utilization was not promising. These have directly or indirectly affected the outcomes of HEIs. Hence, to bridge the gap between theory and practice, the current HEIs of Ethiopia should diversify funding sources (Mengistu, 2015), enhance financial planning and accountability, improve graduate employability, and advance system thinking.

Conclusions

The systems theory paradigm, which emphasizes holistic perspectives and an awareness of the connections and interdependencies among different elements of higher education, is employed in this study. Furthermore, it highlights how components interact and influence one another and that systems should be seen as a whole entity rather than just the sum of their parts. This study's focus is on exploring how the economics of higher education financing affects the interplay of system and capacity in Ethiopian higher education. Thus, the following conclusions are drawn from the results and discussions.

- The performance and the outcomes of higher education institutions are affected by their economics, which includes generation, allocation, and utilization of resources. However, the symbiotic relationship and implementation of economics of higher education in Ethiopia are encircled several problems including lack of institution building, inefficient governance, and lack of quality curriculum that emphasizes real-world application, hindering the creation of a well-established system. Even though the expansion of higher education has brought numerical gains that increased access to universities and diversified fields of studies, this rapid expansion has not been accompanied by proportionate funding increases. The resource generation, allocation, and utilization-controlling mechanisms in Ethiopian public universities are highly inefficient and affect almost all aspects of institutional activities.

- The last seven decades of the Ethiopian higher education system have been characterized by regimented management, limited autonomy, declining educational quality, weak research output, and a loose connection with global higher education. These showed that the Ethiopian higher education system had been provided with the context that autonomy, accountability, and capacity were loosely operated.

- The interplay between system and capacity within and across public HEIs in Ethiopia is a multifaceted issue that needs system thinking. It involves various factors such as their economics, academic freedom, effective and efficient governance, and infrastructure and resources. Even though a well-functioning higher education system requires a dynamic and strong interplay between system and capacity, it is affected by the regime change, centralized governance, political influence, and lack of financial and personnel resources. It is recommended that, to address the concerns and challenges observed in the interplay of the system and capacity of HEIs of Ethiopia, it should re-evaluate the "whole system" to ensure competitiveness within and across institutions to prepare competent graduates.

Ethics statement: We hereby declare that research/publication ethics and citing principles have been considered in all stages of the study. We take full responsibility for the content of the paper in case of an argument.

Statement of interest: There is no conflict of interest.

References

Abate, S. (2013). Financing higher education in Ethiopia: Analysis of cost-sharing policy and its implementation. *Higher Education Policy*, *26*(1), 109–126. https://doi.org/10.1057/hep.2012.21

Abbas, J. (2020). Service quality in higher education institutions: Qualitative evidence from the students' perspectives using Maslow's hierarchy of needs. *International Journal of Quality and Service Sciences, 12*(4), 371–384. https://doi.org/10.1108/IJQSS-02-2020-0016

Abdullahi, I., & Yusoff, W. (2019). Influence of facilities performance on students' satisfaction in Northern Nigerian universities. *Facilities, 37*(1/2), 2–17. https://doi.org/10.1108/F-08-2017-0088

Abebe, G. (2014). Higher education in Ethiopia: Expansion, quality assurance and institutional autonomy. *Higher Education Quarterly*, **68**(4), 394–415. https://doi.org/10.1111/hequ.12036

Aldhaen, E., & Mahmood, M. (2020). HEIs' practices and strategic decisions toward planning for delivering academic programs for a sustainable future. In *Proceedings of the International Conference on Sustainable Futures: Environmental, Technological, Social and Economic Matters* (pp. 89–93). Springer. https://doi.org/10.1007/978-3-030-32902-0_12

Alemayehu, E. (2024). A mixed design study on challenges and experiences with gender diversity management in Ethiopian public higher education institutions. *International Journal of Comparative Education and Development, 26*(4), 392–404. https://doi.org/10.1108/ijced-03-2024-0019

Alemu, A. A., & Metcalfe, A. S. (2021). Political ideology and academic autonomy in Ethiopia. *Journal of Comparative and International Higher Education, 13*(4), 16–27. https://doi.org/10.32674/jcihe.v13i4.2871

Aliye, A. (2019). The challenges of management research in Africa: A study of selected Ethiopian higher education institutions. *African Journal of Business Management, 13*(10), 326–334. https://doi.org/10.5897/AJBM2019.8753

Asgedom, A. (2005). Higher education in pre-revolution Ethiopia: Relevance and academic freedom. *The Ethiopian Journal of Higher Education, 2*(2), 1–45.

Atanaw, B., Bezabih, A., & Gezahegn, H. (2025). How university governance affects education service quality: Insights from Ethiopian public universities. *Frontiers in Education, 9*, 1447357. https://doi.org/10.3389/feduc.2024.1447357

Babalola, S. O. (2024). Students–staff classroom co-creation as a model of employability skills development in a Nigerian university. *Journal of Applied Research in Higher Education, 16*(4), 1289–1300. https://doi.org/10.1108/JARHE-02-2024-0061

Bekele, A., Tekle, E., Abebe, G., Guesh, K., Kassaye, M., Dechassa, N., Muhiye, T., Negewo, T., & Wondie, Y. (2023). *Differentiating the higher education system of Ethiopia: A national study report*. Springer. https://doi.org/10.1007/978-3-658-39082-2

Bekele, M., Kálmán, O., & Horváth, L. (2024). Teachers' perception on digital technology in teaching and learning as a quality factor in Ethiopian universities. *Journal of Educational Sciences*, *25*(1), 145–162. https://doi.org/10.35923/jes.2024.1.08

Benson, J., Bessonov, M., Burke, K., Cassani, S., Ciocanel, M., Cooney, D., & Volkening, A. (2022). How do classroom-turnover times depend on lecture-hall size? *Mathematical Biosciences and Engineering, 20*(5), 9179–9207. https://doi.org/10.3934/mbe.2023403

Bishaw, A., & Melesse, S. (2017). Historical analysis of the challenges and opportunities of higher education in Ethiopia. *Higher Education for the Future, 4*(1), 31–43. https://doi.org/10.1177/2347631116681212

Blase, M. G. (1986). Institution building: A source book (Rev. ed.). University of Missouri Press.

Boateng, F. K. (2020). Higher education systems and institutions: Ethiopia. In J. C. Shin & P. Teixeira (Eds.), *The international encyclopedia of higher education systems and institutions* (pp. 1012–1018). Springer. https://doi.org/10.1007/978-94-017-8905-9_449

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Breetzke, G., & Hedding, D. (2018). The changing demography of academic staff at higher education institutions (HEIs) in South Africa. *Higher Education, 76*, 145–161. https://doi.org/10.1007/s10734-017-0203-4

Chalchisa, D. (2014). Practices of assessing graduate students' learning outcomes in selected Ethiopian higher education institutions. *Journal of International Cooperation in Education, 16*(2), 157–180. https://doi.org/10.15027/36172

CRA (2023). Cepheus Research Analytics. https://cepheuscapital.com/insights/

Desalegn, A., & Solomon, N. (2022). The interrelationship among institutional capacity, infrastructure governance and equity, and nation-building process in Ethiopia. *Public Organization Review, 22*, 627–647. https://doi.org/10.1007/s11115-021-00523-7

Dissanayake, C. K., & PMP, E. (2021). General Systems Theory-Based Conceptual Framework for Restructuring the Higher Education Institution System. In *ASEM 42 and International Annual Conference Proceedings*.

FDRE. (2019, August 12). *Higher Education Proclamation No. 1152/2019*. Federal Negarit Gazette. https://justice.gov.et/en/law/higher-education-proclamation-no-1152-2019

FDRE. (2023, October 6). *A Proclamation to Provide for Autonomy of Universities (Proclamation No. 1294/2023)*. Ministry of Justice. https://justice.gov.et/en/law/a-proclamation-to-provide-for-autonomy-of-universities

Gebru, D. A. (2013). University Autonomy: The Ethiopian Experience. *International Journal of Educational Reform*, *22*(3), 271-288. https://doi.org/10.1177/105678791302200305

Gebru, S., Hondeghem, A., & De Wit, K. (2024). Higher education system governance trend in Ethiopia: Towards a hybrid model. *Higher Education*. https://doi.org/10.1007/s10734-024-01331-w

Gelaye, Z. E., & Chali, B. (2021). Determinants of effective budget utilization in Ethiopian public institutions. *Research Journal of Finance and Accounting, 12*(17), 8–15. https://doi.org/10.7176/rjfa/12-17-02

Getaneh, T., Tassew, G., Tareke, G., Amukune, S., & Józsa, K. (2024). Overview of Ethiopian public higher education: Trends, system, challenges, and quality issues. *Education Sciences, 14*(10), Article 1065. https://doi.org/10.3390/educsci14101065

Glewwe, P., Lambert, S., & Chen, Q. (2020). Education production functions: Updated evidence from developing countries. In S. Bradley & C. Green (Eds.), *The economics of education: A comprehensive overview* (pp. 183–215). Elsevier. https://doi.org/10.1016/B978-0-12-815391-8.00015-X

Gyimah-Brempong, K. (2011). Education and economic development in Africa. *African Development Review, 23*(2), 219–236. https://ideas.repec.org/a/adb/adbadr/546.html

Hailu, M. (2018). Models of higher education governance: Rethinking the models of higher education. *Ethiopian Journal of Higher Education*, *5*(1), 31–56.

HESAA (2024). Higher Education Statistical Annual Abstract (HESAA), 2023/2024(2016E.C.)

Holmes, C., & Mayhew, K. (2016). The economics of higher education. *Oxford Review of Economic Policy*, *32*(4), 475–496. https://doi.org/10.1093/oxrep/grw031

Hudock, A., Stewart, S., & Moore, M. (1995). *Institution building as a development assistance method: A review of literature and ideas* (SIDA Evaluation Report). Swedish International Development Cooperation Agency (SIDA). Retrieved from https://gsdrc.org/document-library/institution-building-as-a-development-assistance-method-a-review-of-literature-and-ideas/

Huisman, J. (2018). Accountability in higher education. In P. Teixeira & J.-C. Shin (Eds.), *Encyclopedia of international higher education systems and institutions* (pp. 1–5). Springer. https://doi.org/10.1007/978-94-017-9553-1_156-1

John, R. (2010). The economy and the function of production in education. *Visión de Futuro*, *13*(1), 1–22. Retrieved from http://www.scielo.org.ar/pdf/vf/v13n1/v13n1a06.pdf

Karppinen, K., & Moe, H. (2019). Texts as data I: Document analysis. In H. Van den Bulck, M. Puppis, K. Donders, & L. Van Audenhove (Eds.), *The Palgrave handbook of methods for media policy research* (pp. 249–262). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-16065-4_14

Khan, M. A., Nisa, Z., & Jan, K. (2022). Estimation of education production function: A case study of selected villages in District Nowshera, Khyber Pakhtunkhwa, Pakistan. *Academic Journal of Social Sciences*, *6*(1), 16–27. https://doi.org/10.54692/ajss.2022.06011677

Kumar, P. M. S. (2017). Capacity building for quality enhancement in higher education. *International Journal of Management, Technology, and Social Sciences*, *2*(2), 84–92. https://doi.org/10.47992/ijmts.2581.6012.0027

Lerra, M. D. (2016). The economics and financing of higher education in Ethiopia: Analysis of financial policies and current trends at the state and Wolaita Sodo University—Qualitative inquiry. *International Journal of Innovative Education Research*, *4*(1), 1–16. Retrieved from https://www.researchgate.net/publication/316787021

London, M., Rahdar, R., Jiang, H., & Lin, Y. (2023). Systems thinking applied to higher education curricula development. *INCOSE International Symposium*, *33*(1), 1–16. https://commons.erau.edu/publication/2088/

Mandal, P. (2009). The foundation blocks of institution building. *NHRD Network Journal*, *2*(2), 13–17. https://doi.org/10.1177/0974173920090702

Mekonnen, Y.B., Herut, A. H., Demissie, M. M., Bareke, M. L., Agezew, B. H., Dedho, N. H., & Lebeta, M. F. (2024). Trends of higher education enrolment, graduation, and employment in Ethiopia: an empirical analysis. *Cogent Education*, *11*(1). https://doi.org/10.1080/2331186X.2024.2302623

Melu, A. (2017). Brief Assessment of Higher Education Governance in Ethiopia: Reflection on the Leap of the Decade JHEA/*RESA Vol. 14, No. 2, pp. 107-126*. Council for the Development of Social Science Research in Africa.

Mengistu, K. (2015). Revenue diversification strategies in Ethiopian higher education system: A brief reflection. *Bahir Dar Journal of Education*, *15*(1), 1–15. https://www.ajol.info/index.php/bdje/article/view/249050

Micunovic, M., Rako, S., & Feldvari, K. (2023). Open Educational Resources (OERs) at European higher education institutions in the field of library and information science during COVID-19 pandemic. *Publications, 11*(3), 38. https://doi.org/10.3390/publications11030038

MoE. (2018). *Ethiopian education and development roadmap (2018–2030)*. Education Strategy Center. Retrieved from https://ethiopianstoday.com/wp-content/uploads/2021/02/Ethiopian-Education-Development-Roadmap-2017_2030-1.pdf

MoE. (2023). *የትምህርትና ሥልጠና አዲስ ፖሊሲ* [New education and training policy – Amharic version]. FDRE Ministry of Education. Retrieved from https://www.abyssinialaw.com/online-resources/policies-and-strategies/education-and-training-policy-of-ethiopia-amharic-version-2023#google_vignette

MoE.(1994). *Education and training policy*. St. George Printing Press. Retrieved from https://www.moe.gov.et/storage/Books/Education%20and%20Training%20Policy%20of%20Ethiopia.pdf

Molla, M. (2023). Economic benefits of higher education in Ethiopia: A benefit-cost ratio analysis. *Higher Education Forum*, *20*, 157–173. https://files.eric.ed.gov/fulltext/EJ1390195.pdf

Morgan, H. (2022). Conducting a qualitative document analysis. *The Qualitative Report*, *27*(1), 64-77. https://hanimorgan.com/wp-content/uploads/2022/01/Hani-Morgan-Conducting-a-Qualitative-Document-Analysis-1.pdf

Moti, G., & Yihun, A. (2024). Accountability system, academic autonomy, and freedom of academia versus pathways to educational excellence in Hawassa University, Ethiopia. *International Journal of Educational Reform*, 33(1), 1–29. https://doi.org/10.1177/10567879241290191

Muktar, S. A., Desta, B. F., Abera, W. S., Demissie, H., & Argaw, M. D. (2021). Effectiveness and efficiency of leadership, management, and governance trainings in Ethiopia: A cross-sectional study. *Research Square*. https://doi.org/10.21203/RS.3.RS-672515/V1

Munyua, K., & Abate, S. (2013). Revenue diversification and resource utilisation in Ethiopian universities. In D. Teferra (Ed.), *Funding higher education in Sub-Saharan Africa* (pp. 71–97). Palgrave Macmillan. https://doi.org/10.1057/9781137345783_4

Nichifor, B., Ţimiraş, L., & Zaiț, L. (2021). Considerations on the impact of higher education from an economic and non-economic perspective. *Studies and Scientific Research: Economics Edition*, *34*, 109–118. https://doi.org/10.29358/sceco.v0i34.500

Ogbonnaya, N. (n.d.). *Economics of education* [Course book]. National Open University of Nigeria.

Oliso, Z. Z. (2023). Ethiopian Higher Education Expansion and Persisting Challenges: A Systematic Review. *International Journal of Educational Review, 5*(1), 11–20.

Qudratova, G. M. (2024). Methodology of analysis of competitiveness of higher education institutions in the Bukhara region. *International Journal of Artificial Intelligence*, *4*(10), 341–345.

Ramachandran, K. (2014). Institution building: Experiences, lessons and challenges. *The IUP Journal of Management Research*, *13*(1), 7–16.

Rashidi, E., & Jingura, R. M. (2024). Performance management and quality assurance in higher education: A conceptual framework for a blended approach. *International Journal of African Higher Education*, *10*(2), 83–112. https://doi.org/10.6017/ijahe.v10i2.17615

Richard, M. M. (2020). Application of system's theory in education. *Unpublished manuscript*. https://doi.org/10.13140/RG.2.2.22063.07844

Sidik, F. (2022). Input, process and output systems theory approach in educational institutions. *Irfani: Jurnal Kajian Keislaman*, *18*(1), 1–12. https://doi.org/10.30603/ir.v18i1.2658

Soboliev, V., & Sobolieva, M. (2021). Institutional capacity of the higher education system and factors of its provision. *The Problems of Economy*, *2*, 63–69. https://doi.org/10.32983/2222-0712-2021-2-63-69

Stichweh, R. (2018). Systems theory. In M. A. Hsieh & B. M. Chen (Eds.), *Formation control of multi-agent systems* (pp. 65–78). Springer. https://doi.org/10.1007/978-3-319-54672-8_4

Tang, Y. Y. (2005). Document analysis and understanding. In C. H. Chen & P. S. P. Wang (Eds.), *Handbook of pattern recognition and computer vision* (pp. 219–240). World Scientific Publishing.

Teshome, A., & Oumer, J. (2024). STEM education and labor needs: Engineering graduates in Ethiopia. *International Journal of Research in STEM Education, 6*(1), 46–58. https://doi.org/10.33830/ijrse.v6i1.1664

Teshome, T. (2018). Human resource development climate in higher education institutions in Ethiopia: Empirical analysis on selected public universities. *Eastern Africa Social Science Research Review*, *34*(1), 277–290. https://doi.org/10.1353/eas.2018.0009

Theisen, G. (2004). *Higher education development for Ethiopia: Pursuing the vision* (World Bank Sector Study No. 1-127). Washington, DC: World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/235071468752056917/higher-education-development-for-ethiopia-pursuing-the-vision

Toutkoushian, R. K., & Paulsen, M. B. (Eds.). (2016). *Economics of Higher Education*. Springer. https://doi.org/10.1007/978-94-017-7506-9

USADoE. (2012). the Economics of Higher Education a Report Prepared By the Department of the Treasury with the Department of Education

Wata, C., Krishnaiah, P., & Kant, S. (2020). An assessment of resource generation in public universities of Ethiopia: In the case of Wollaita Soddo, Bahirdar, and Gondar universities. *PalArch's Journal of Archaeology of Egypt/Egyptology, 17*(9), 6468–6483.

Whalen, M. L. (2004). *The economics of higher education*. Cornell University. Retrieved from https://irp.cornell.edu/wp-content/uploads/2024/04/1000033.pdf

World Bank (2022). Ethiopia Education Sector Public Expenditure and Institutional Review (PEIR) Analysis of Equity, Efficiency, Effectiveness, Adequacy, and Sustainability of Public Spending and Institutional Arrangements in the Education Sector

Xudoynazarovich, S. A. (2024). Challenges of human resource management in higher education institutions and their solutions. *Ethiopian International Journal of Multidisciplinary Research, 11*(12), 398–402. https://www.eijmr.org/index.php/eijmr/article/view/2314

Yallew, A. T. (2020). Higher education in Ethiopia: Recent developments and challenges. *AfricArXiv Preprints*. https://doi.org/10.14293/111.000/000009.v1

Yirdaw, A. (2015). *The role of governance in quality of education in private higher education institutions: Ethiopia as a case study*. Addis Ababa: Artistic Printing Press.

Yiriga, A. (2024). Digitalization of higher education in Ethiopia. *Journal of Comparative & International Higher Education, 16*(2), 5978. https://doi.org/10.32674/jcihe.v16i2.5978

Zafarullah, H. M. (1980). Institution building and development: A conceptual overview. *Politics Administration and Change, 5*(2), 109–124

Zekarias, Z. (2023). Ethiopian higher education expansion and persisting challenges: A systematic review. *International Journal of Educational Review, 5*(1), 11–20. https://ejournal.unib.ac.id/IJER/article/download/26544/11933

Zeleke, B., & Hirko, B. (2018). The dynamics of higher education governance policy process in Ethiopia. *The Ethiopian Journal of Higher Education, 5*(2), 1–24.

Manuscript Preparation Guideline

Manuscript Presentation

EJTEL accepts submissions and publishes manuscripts written only in English (British or American English). A manuscript should be no more than 10000 words including figures, references, and tables.

Layout

Papers should be prepared with Microsoft Word in .docx, .doc or in .rtf file formats. Use 1" margins all around, 1.5 spacing, and 12-point Times New Roman, and pages numbered.

Title Page

The title page should contain a brief the title, running title (maximum of 7 words), name(s) of author(s), all authors' affiliations, the name of the corresponding author, and telephone (mobile), full postal address and e-mail address.

Abstract

A single paragraph not exceed 300 words in length. No references non-standard abbreviations should not be used, if necessary, they should be clearly defined in the abstract, at first use.

Keywords

Immediately after the abstract, about 4-6 keywords should be given.

Abbreviations

As specified in the latest APA guideline.

Quotations

Quotations of less than 40 words should be incorporated into the text using double quotation marks. Longer ones should be in a freestanding block of text without quotation marks, per APA style.

In text citations & References

Strictly as specified by the latest APA guideline. Section Headings

First-, second-, third-, and fourth-order headings should be clearly distinguishable.

Tables and Figures

No tables or figures should be given without discussion or reference inside the text. Table titles with number (Table #: title) should be at the top of the table and figure captions, underneath.

Appendices/Authors Notes

Supplementary material should be collected in an Appendix and placed before References.

General:

Refer to the guide to authors from the website http://ejol.aau.edu.et/index.php/EJTEL for detailed instruction

Submitting a Manuscript

Submit your article using online submission system ***http://ejol.aau.edu.et/index.php/EJTEL*** or using the official e-mail address *CEBS.ejtel@aau.edu.et* when the online system is not working.

Ethiopian Journal of Teacher Education and Leadership

Official Journal of College of Education and Language Studies
Addis Ababa University

Available online at: http://ejol.aau.edu.et/index.php/EJTEL
DOI: *https://doi.org/10.63990/ejtel.v2i2.12450*

In this issue:

For enquiry contact the managing editor at:
CEBS.ejtel@aau.edu.et
251-0916 83 10 94
251-0911 17 09 31

Layout Design: Mekbib Alemu