



**DILLA UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**

**ASSESSMENT OF TEACHER PREPARATION PROGRAM AND ITS  
IMPLEMENTATION QUALITY IN THE SOUTH NATION,  
NATIONALITIES AND PEOPLES REGION TEACHER EDUCATION  
COLLEGES**

**PhD DISSERTATION**

**BY:**

**BEFKADU LEGESSE ABATE**

**MARCH, 2026**

**DILLA, ETHIOPIA**

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**BY**

**BEFKADU LEGESSE ABATE**

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**In**

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**MARCH, 2026**

**DILLA, ETHIOPIA**

## DECLARATION OF THE AUTHOR

I, the undersigned, declare that this dissertation entitled. *Assessment of Teacher Preparation Program and Its Implementation Quality in the south nation, nationalities and peoples region teacher education colleges* is my original work, and that it has not been submitted to any other institution anywhere for the award of any academic degree, diploma, or certificate, that I followed all ethical and technical principles of scholarship in the data collection, data analysis and preparation of this the report, and that all the sources that I have used or quoted have been indicated and acknowledged.

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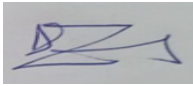



Department/School/Institute: Educational Planning and Management

Date of submission: \_December 17, 2025

## DISSERTATION APPROVAL SHEET

I, the undersigned certify that I have read and evaluated this Dissertation entitled *Assessment of Teacher Preparation Program and Its Implementation Quality in the south nation, nationalities and peoples region teacher education colleges* prepared under my guidance by *Befkadu Legesse Abate*. I recommend that it be submitted for defense as fulfilling the dissertation requirements.

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## AUTOBIOGRAPHY

My name is Befkadu Legesse Abate, and I was born in November 1978 in Arba Minch town, Ethiopia. I began my early education at Abune Zekarias Gibi Priest School, where I attended pre-primary classes, and later continued my elementary and junior education at Fitawrari Haile Degaga School. I completed my secondary studies at Arba Minch Comprehensive High School, where I studied from grades 9 to 12. After completing high school, I joined the Awassa Teachers Training College (TTC) in 1997/98 and earned a Teaching Diploma. I then pursued my undergraduate studies at Debu University, Dilla Teachers and Health Science College, where I obtained my Bachelor's Degree in 2005. Later, I earned my Master's Degree in Educational Leadership and Management from Dilla University in 2012. Soon after graduation, I was employed by Dilla College of Teacher Education, where I served for over a decade. In 2020, I joined the School of Graduate Studies at Dilla University to pursue a Doctor of Philosophy (Ph.D.) in Education, specializing in Educational Policy and Leadership.

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Befkadu legesse Abate

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## LIST OF ABBREVIATIONS AND ACRONYMS

AIFs	Active Implementation Frameworks
BESO	Basic Education System Overhaul
CFIR	Consolidated Framework for Implementation Research
CTE	College of Teacher Education
CTEs	Colleges of Teacher Education
DOI	Diffusion of Innovation
EGRA	Early Grade Reading Assessment
ESDP	Education Sector Development Plan
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
KAS	Knowledge, Attitudes, and Skills
M&E	Monitoring and Evaluation
MoE	Ministry of Education
NCATE	National Council for Accreditation of Teacher Education
NCTQ	National Council on Teacher Quality
NIRN	National Implementation Research Network
NPT	Normalization Process Theory
PEST	Political, Economic, Social, and Technological
PGCE	Postgraduate Certificate in Education
PISA	Program for International Student Assessment
PLCPs	Professional Learning Certification Programs
QIF	Quality Implementation Framework
READ	Reading for Ethiopia's Achievement Development
SDG 4	Sustainable Development Goal 4
SEM	Structural Equation Modeling
SNNP	Southern Nations, Nationalities, and Peoples'
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SPSS	Statistical Package for the Social Sciences
TALIS	Teaching and Learning International Survey
TESO	Teacher Education System Overhaul Program
TPP	Teacher Preparation Program
TPPs	Teacher Preparation Programs
TTI	Teacher Training Institute
TTS	Teacher Preparation School
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
VAM	value-added models

## ABSTRACT

*This research assessed teacher preparation programs (TPPs) and the quality of their implementation in the former Southern Nations, Nationalities, and Peoples' Region (SNNPR) of Ethiopia. In particular, it studied the views of diploma-graduate teachers, college instructors, and instructional leaders, with regard to in-college and out-of-college determinants. The study was developed based on a pragmatist paradigm and mixed-methods explanatory sequential design because the initial stage of the study (quantitative) used closed-ended questionnaires to collect data, and the second stage (qualitative) involved semi-structured interviews and document analysis to explore the topic. The sampling with the help of multistage sampling was conducted in relation to four regional teacher education colleges and their respective catchment zones. The analysis of quantitative data was performed with the help of SPSS (v.26) and SEM (v.3.1), and the analysis of qualitative data was subjected to thematic analysis. The results indicated that the in-college and out-of-college variables had a significant effect on teacher preparation program implementation quality, and their comparative effects were different. Strong internal predictors were instructional leadership and professional attitudes of diploma-graduated teachers, whereas competencies of implementing the curriculum and the complaint of educational materials were weak. Technology was the most influential positive factor, followed by political and economic drivers; in contrast, social factors exerted a significant negative effect. The mediation analysis revealed that internal factors especially that of leadership and teacher attitudes, only condensed the external pressures to some degree, which demonstrated moderate variance. The findings highlight the importance of systemic reform in order to make sustainable changes. Although development of leadership and teacher identity in colleges is very important, external factors like lack of technology, low funding and low social status of teaching prevails. In this regard, this study suggests specific technological investment, socio-economic reevaluation of profession, profession-oriented leader development. Future studies should develop latent variables, regional comparison, and investigation of institutions that have overcome reform limits in order to shape national teacher preparation program policy at large.*

**KEY WORDS:** *Teacher Preparation Programs (TPPs); Implementation Quality; Instructional Leadership; Technological and Socio-Economic Factors; Systemic Reform*

## CHAPTER ONE

### INTRODUCTION

Teacher preparation programs in Ethiopia, particularly at the diploma level, have faced persistent challenges that hinder the production of highly qualified educators. Studies indicate that issues such as curriculum surplus, lack of practical application, incoherence between subjects, and poor knowledge transfer have significantly affected the quality of teacher education (MoE, 2019; Tesfaye, 2014). Despite reforms aimed at improving teacher preparation, concerns remain regarding the implementation quality of these programs. This study employs a sequential explanatory mixed-methods design to assess the implementation quality of teacher preparation programs in the former Southern Nations, Nationalities, and Peoples' (SNNP) Regional State, Ethiopia. The research evaluates in-college capacities (instructor competencies, diploma graduated teachers attitude, leadership performance, material/infrastructure availability) and out-college (PEST) factors (Political, Economic, Social, and Technological influences) affecting program implementation quality.

#### **1.1. Background of the study**

It is not a secret that education has always been considered one of the key sources of social change and sustainable economic development. In addition to human capital development, education encourages innovation, equity and the foundation stones of a stable and prosperous society on the civic participation (UNESCO, 2021). Goal 4 of Sustainable Development (UN Department of Economic and Social Affairs (2025) attaches special importance to inclusive, equitable, and quality education as a key way of alleviating poverty and promoting health and economic resiliency. As Agolli & Hasmeta (2025);

*"Education is a human right, a powerful driver of development, and one of the strongest instruments for reducing poverty and improving health, gender equality, peace, and stability. It delivers large, consistent returns in terms of income, and is the most important factor to ensure equity and inclusion. For individuals, education promotes employment, earnings, health, and poverty reduction. Globally, there is a 9%*

*increase in hourly earnings for every extra year of schooling. For societies, it drives long-term economic growth, spurs innovation, strengthens institutions, and fosters social cohesion. Education is further a powerful catalyst to climate action through widespread behavior change and skilling for green transitions." (pp. 115)*

Economically, every year of schooling is associated up to 10 percent rise in personal income and macroeconomic productivity and stability (OECD, 2019; Shiferaw, 2017). Through these associations, it is possible to see how education can be used to become more empowered as an individual and as a nation.

In addition, the quality of a nation is significantly influenced by its citizens' quality, particularly in terms of education. The quality of education is more than any single factor, as it is primarily influenced by the quality of teachers, who are also influenced by the quality of their teacher preparation programs (Geneti et al., 2022 and Rayner & Teshome, 2005). Ifunanya, et al., (2013) provided a summary on the correlation between national development, educational quality, and effective teachers. A nation's overall quality is fundamentally a reflection of its citizenry. This human capital is largely shaped by the standard of the educational system, which, in turn, relies primarily on the competence and dedication of its teaching force

High-quality teacher preparation programs significantly impact educational quality, as public demand for quality education increases globally, with studies emphasizing the role of teacher quality in student learning (Abebe and Tassew, 2013). It has been confirmed by various studies, teacher quality is a crucial factor in determining students' achievement in schools, with professional practice and knowledge being widely accepted conditions for quality learning (MoE, 2018; Tesfaye, 2014).

Nevertheless, the quality of teachers is the key to the success of any education system. This statement is agreed by several researchers who state that teacher competence is the strongest school-dependent factor that affects the performance of students (Schleicher, 2011). Those nations which attain excellent education results tend to spend a lot of money in teacher preparation, continuous learning, and favorable working condition. Therefore, teacher preparation programs (TPPs) provide a strategic base towards the implementation of national

plans on Education Sector Development (ESDP). This connection is particularly important in Ethiopia, where the quality and motivation of teachers remain a constant issue of concern (MoE, 2020; Tadesse et al., 2020).

Despite Ethiopia striding in terms of increasing access to education, the quality aspect particularly in terms of teacher preparation is a burning issue. The teaching preparation institutions especially the Colleges of Teacher Education (CTE) have been snowed under by systemic problems such as poor infrastructural development, inadequate instructional facilities, lack of motivation among teaching staff, and lack of professional development opportunities. Tadesse et al. (2020) emphasize that the most ambitious reforms cannot be successful without a well-trained and properly provided teaching force. The Ethiopian Education Development Roadmap (MoE, 2018) argued that,

*"The failure of TE institutions to provide dormitory and cafeteria services are contributing to the low status of the profession in general and to the quality of education in particular. The inadequacy of teachers' salary in view of the cost of living and the pay with similar qualifications get in other sectors. Teachers who have served for many years at a given rank are paid the same salary as those that are newly promoted or hired. The hardship allowance, when available, does not sufficiently consider the cost of living or the peculiar difficulties that teachers face depending on place of their work." (PP. 40)*

The internal imbalance in Ethiopia cost of living shows even more complications. The teacher preparation in the Southern Nations, Nationalities, and Peoples Region (SNNPR) has specific and common issues due to weak institutional leadership, poor curriculum alignment, and low student achievement in standardized tests (MoE, 2020; USAID, 2018). These problems represent structural imbalances which impede the attainment of educational equity.

The recent education tests offer a strong piece of evidence of deteriorating student achievement indicators of more systemic issues. As an example, according to the Early Grade Reading Assessment (EGRA), in 2018, 6.2% of the Grade 1 students have reached reading competence (USAID, 2020). On the same note, the Southern Regional Education Bureau the 2021 diploma graduates' annual licensure examination reports has shown that only 4.6 percent of the graduates of the CTEs in the region scored above 70 percent in their teacher licensure

examinations, and 41.1 percent only attained passing scores. These statistics indicate not just failure in preparation of pre-service teacher, but also mismatch between local education requirements, competencies and curricula. Another similar observation that 69.2 percent of Grade 2 students in the Gedeo Zone were unable to read fluently (USAID, 2018) also represents the relationship between poor teacher preparation and performance.

Besides, low professional commitment, high turnover, and little motivation among teachers are also reported by the empirical literature, frequently in connection with poor working conditions and low remunerations (Asgedom, 2020). There is also the lack of leadership potential in the teacher education institutions most CTE leaders are not formally trained as instructional supervisors and curriculum implementers (Gebrehiwot, 2022). All these interdependent factors put to shame the quality and sustainability of teacher preparation in SNNPR.

The gaps in teacher preparation program as well as the learning outcomes remain continuous that require a theoretical insight on the implementation quality. This paper uses the frameworks of the implementation science (Nilsen, 2015; Damschroder et al., 2009) and places the teacher preparation reform within the model of dynamic systems. Such an approach argues that successful implementation is based on personal competency interaction (forexample, the ability of instructors to be a pedagogue), organizational readiness (forexample, infrastructure, leadership), and external factors (forexample, policy, socio-economic context). Systems thinking, in its turn, enables the understanding of how reforms are embedded, maintained, or limited in the complex educational ecosystems in a multidimensional manner (May & Finch, 2009; Weiner, 2009).

Using these theoretical interpretations, the study does not only explore the relationship among important variables in an institution, but also contextual enablers and barriers that contribute to the success of implementation. The study is part of a growing body of research that implements implementation frameworks initially designed in health and social sciences to teacher education and fills a gap in the Ethiopian research on education.

Notwithstanding national and regional initiatives towards enhancing the quality of education, there has been evidence that teacher preparation system in SNNPR still yields sub-qualified and unmotivated graduates who are not prepared to handle the needs of classrooms. Low literacy levels in primary school students, low CTE licensure scores, and ineffective leadership in institutions are symptoms of a bigger problem, which is the lack of quality of teacher preparation programs. To overcome this issue, it is necessary to have a scientific analysis of the interplay between internal (curricular relevance, instructional competence, professional attitudes, and resource adequacy) and external factors (political, economic, social, and technological conditions) to influence implementation quality.

This research is therefore aimed at assessing the quality of teacher preparation programs in the selected CTEs in SNNPR using integrative theoretical framework. In this way, it will get leverage points on how to enhance the effectiveness, relevance, and sustainability of teacher preparation as a driver of education change in Ethiopia.

## **1.2. Statement of the Problem**

Four Colleges of Teacher Education (CTEs) in the Southern Ethiopia regional states play a key role in training teachers to fulfill the needs of primary schools in the area. As the enrolment in primary schools has been growing rapidly due to the focus on attaining universal primary school, the number of teacher graduates leaving these colleges through pre-service and in-service programs continues to grow (Befekadu & Dejene, 2017). But even with this expansion, the quality of teacher training is challenged in many ways (UNESCO, 2021).

A large number of factors influence the quality of education, and the quality of teachers and teaching seems to be a crucial factor. Quality teaching demands qualified and dedicated people who play an active part in the process (MoE, 2018). When it comes to teacher preparation, the main stakeholders are the college instructors, instructional leaders, and the future teachers.

The effectiveness of education and schooling is, by all means, central to teacher preparation program success (UNESCO, 2018). The quality of learning in the primary schools joints

largely depends on the quality of teachers generated by this program and the teaching strategies applied in the teacher training programs.

Teacher Education by its architecture and execution determines competent teachers, and competent teachers are the key to the whole process of education. Therefore, it is important to enhance teacher preparation programs to enhance the quality of the entire education.

Similar spirit, Ethiopian government, over the years, has tried hard to develop teacher preparation programs. However, despite tremendous success, there are a number of issues that require solutions and changes. In Ethiopia, study was carried out by Befekadu & Dejene (2017) revealed that a paradigm shift was necessary in the quality of teacher education (MoE, 2003). Again MoE (2018) Ethiopian Education Development Roadmap (2018-30) stated:

*"At the primary level, teachers are even deployed to teach subjects that they have not been adequately prepared to teach. In other instances, diploma graduates are not interested in teaching in grades 7 and 8 as they feel they are not competent to do so."*  
(P: 41)

Since these aspects are covered by MoE (2022), it must be said that the implementation of teacher preparation programs must be measured and respective teachers should be prepared in order to make sure that the quality of education and its success is guaranteed.

It has been complained that teacher education preparation programs are getting worse, and many stated that due to bad teacher preparation, the standard of education, overall, is getting worse (Tesfaye, 2014). Tamrat (2022) found that a significant number of graduated teachers were not satisfied with the way they were prepared, that the initial frustrations in their career were the result of the gap between their preparation and the classroom reality. The impact of the teacher preparation program implementation on early success in teaching may be significant and long-lasting in terms of teacher perception, motivation, and achievement (Negash, 2006).

Recent studies emphasize the complexity of implementing educational programs, pointing out that achievement depends on a number of interdependent factors (Agolli & Hasmeta, 2025; Leithwood, 2022). Darling-Hammond (2021) highlights the necessity of community-based factors, namely, political will, sustainable funding, and aligned policies, as the preconditions of effective educational changes. Similarly, Fullan (2011) identified the importance of the provider characteristics whereby the belief in innovation, perceived benefits, and adaptation of educators influence the quality of the program implementation. These insights, combined, indicate that systemic support, together with the personal commitment of educators, is the key to successful educational reform.

The successful implementation of new educational programs is often hindered by issues such as poor leadership and lack of teacher empowerment. Bryk (2015) emphasizes that a positive organizational climate and a unified vision are critical to overcoming these obstacles. Moreover, Spillane (2006) highlights that without shared decision-making and effective communication, educational initiatives struggle to gain traction. Strong leadership is essential in this context, as it fosters a collaborative environment and provides incentives for improvement (Leithwood, 2022). Additionally, trusted teachers play a crucial role as change agents, ready to navigate challenges and drive successful implementation (Tesfaye, 2014). Thus, addressing the lack of effective leadership and empowering educators is vital for enhancing the continuity and effectiveness of educational programs.

According to recent discoveries, there are key elements to the effective implementation of psycho-educational interventions. In Garcia et al. (2023), teacher autonomy and intrinsic motivation contribute to the implementation process because they become more reliable and durable. This part is the overall trends in teacher education, as described by Tatto (2024), who states that it is necessary to evaluate the implementation of the program to detect inefficiencies and provide quality. In addition, Darling-Hammond (2022) supports the idea of a comprehensive strategy that is centered on organizational capacity, professional staffing, and community interaction as the key to success. All this evidence leads to the conclusion that it is important to empower teachers and create a positive educational climate to encourage their good teaching.

In the study of teacher preparation programs (TPP), international studies are used to assess systemic and policy variables, especially those of high-performing education systems such as Finland and Singapore. According to Darling-Hammond (2017), Ingersoll and Strong (2011), and Tatto (2024), some of the most significant aspects that determine teacher training are high entry standards, such as academic qualifications, exams on teaching ability, and funding systems and policies. They also emphasize the role of mentorship programs, successful practicum experiences, integration of technology, skills of the 21st century, and the curriculum alignment with career development. Such factors are considered to be necessary to prepare teachers to address the modern educational needs.

The teacher preparation programs (TPP) research studies conducted internationally utilize different study designs, such as quantitative, qualitative, and mixed-method designs. Quantitative tests, including TALIS and PISA by the OECD (2018, 2019), are aimed at assessing the practices of teachers and the performance of the learners. On the contrary, qualitative methods are used in the examination of successful TPP case studies, and mixed-method research helps to analyze the cross-national policy to find practices that could be transferred.

It has been shown that well-implemented mentorship programs lead to better teacher retention (Darling-Hammond, 2017), and more time in the classroom makes teachers better prepared (OECD, 2018). Stringent entry requirements are also associated with the quality of the programs. To counter it, researchers speak in favor of increasing the levels of evidence-based practices, followed in Finland, and changing TPP to the real needs of schools to achieve the maximum results on a global scale.

The literature underlines the necessity of systemic changes where policies, curricula, and professional development are in line with the realities of the classroom. Management and collaboration are essential, and according to Leithwood (2022), prioritization, consensus-building, and motivators are needed to streamline the implementation process. Also, reforms can only be maintained with a positive organizational climate and a shared vision. All in all,

studies indicate the importance of mentorship, quality practicum experiences, and technology integration as the keys to the 21st-century education requirements.

On the other hand, the research articles that focus on Africa, including Mgaiwa and Milinga (2024) and UNESCO (2018) articles focus on institutionalized inequality, resource scarcity, and teacher scarcity. To emphasize the historical and socio-political determinants that affect TPPs, these studies are mostly qualitative in their designs, employing critical syntheses and situational analyses. Less generalized research, such as O'Sullivan (2002) looks at the non-implementation of policies and lack of curriculum through the lens of case studies and participatory assessments specific to the location.

In Ethiopia, studies have shown the same problems, including inconsistency in the policy, mismatch in curriculum, and lack of professional development amongst pre-service as well as in-service teachers. Tesfaye (2014) express the absence of actual concern regarding such issues, and other papers such as Gemechui and Aba-Oliiii (2024) are also critical of the adoption of curriculum and technology. Moreover, inefficient professional development courses and incompetent teacher candidates are the most common themes (Assefa et al., 2021). It has likewise been rather regularly demonstrated in the literature that contextually relevant pedagogical practices are to be adopted and that institutional support is to be multiplied to address these gaps (Mihiretie, 2023). In all areas, the lack of resources and the professional status of teacher educators are important weaknesses to successful TPP implementation.

The Ethiopian research tends to focus on the use of technology and how to select teachers better as well as promote their professional growth, which is why much of the recommendations revolve around these areas in the specific country. Scaled effective practices are proposed in the world studies, scaled and context-sensitive reforms in response to local inequalities and resource constraints are proposed in African and Ethiopian studies. The following inconsistencies provide reasons to change strategies to fit certain educational situations and systematic issues.

The above empirical studies and the current research differ in that the former studies narrowed on the effects of various factors on the implementation of teacher preparation programs (TPPs) when applied to primary school teachers in the former Southern Nations, Nationalities, and Peoples' Region (SNNPR) Colleges of Teacher Education. In contrast to more generalized international research, such as the TPP model in Finland and Singapore, or African research which examines systemic unfairness and resource limitations in more than a single nation, this study limits the scope to regional analysis in Ethiopia.

A regional-level approach enables a discussion of local issues more deeply, including the peculiarities of socio-cultural, political, and logistical aspects that affect the implementation of TPP in SNNPR. Moreover, focusing on teachers with a diploma, college teachers, and instructional leaders, the present research emphasizes the interaction of several stakeholders directly linked to teacher preparation, which is little explored in a larger-scale study.

The present study, methodologically, uses a sequential explanatory mixed techniques design, which is the difference between the study and many of those mentioned. International studies usually rely on large-scale quantitative evaluations such as the Programme for International Student Assessment (PISA) and the Teaching and Learning International Survey (TALIS). In contrast, African studies often base their analysis on qualitative synthesis or case-based investigations. However, the design of the present study integrates both quantitative and qualitative tools in order to obtain comprehensive and balanced data. These tools are organized in a logical sequence so that each method complements the other and contributes to a more thorough understanding of the research problem. It enables the paper to measure the main determinants influencing the implementation of TPP, and then to elaborate upon this through the qualitative data of lived experiences and perceptions of teachers, instructors, and leaders. Consequently, the existing study yields both an information-based perspective and rich contextual insights, rendering it exceptionally appropriate to contribute to the enhancement of policy and practices in teacher training in the SNNPR context of Ethiopia.

In evaluating the quality of teacher preparation programs (TPPs), it is crucial to consider multiple dimensions such as input, process, output, and outcomes (Stufflebeam, 2000). While

much of the discourse has centered on the outcomes of TPPs, particularly in terms of trainee achievement (Tesfaye, 2014), insufficient attention has been given to the implementation processes that directly influence what occurs within these programs. Notably, there is a scarcity of national or international research examining the factors influencing the implementation of primary school TPPs, particularly from the perspectives of in-college (college capacities) and out-of-college (PEST: Political, Economic, Social, and Technological) factors.

In the Ethiopian context, recent studies highlight the importance of assessing both in-college and out-of-college variables in understanding the quality of TPP implementation. In-college factors, which are directly governed by the institutions, include elements such as the availability of adequate facilities, the competence of instructors, the attitudes and preparedness of trainee teachers, and the effectiveness of institutional leadership. Conversely, out-of-college factors encompass broader influences beyond the control of the institutions, such as political stability, funding and economic challenges, societal attitudes toward teaching, and the integration of technological resources into teacher training.

Despite growing recognition of the importance of these factors, gaps persist in addressing key methodological and empirical issues. Methodologically, there has been a lack of comprehensive investigations that utilize strong designs, diverse populations, multi-site studies, and advanced data analysis techniques to examine the interplay between in- and out-of-college factors. Empirically, the literature continues to lack sufficient research that thoroughly evaluates the quality of TPP implementation in Ethiopia, particularly in terms of how internal and external variables interact to influence program outcomes.

This study aims to fill these gaps by assessing the implementation of TPPs in SNNPR Ethiopia through the perspectives of teachers, instructors, and instructional leaders. The focus is on understanding the in-college factors, such as instructor competencies, diploma graduated teachers attitude towards the preparation program and profession, leadership effectiveness, and the provision of educational materials and infrastructure, as well as out-of-college PEST factors, which encompass political, economic, social, and technological challenges. This

research enhances understanding of TPP implementation quality and provides insights for improving teacher preparation in SNNP regional state Teacher Education colleges and Ethiopia as a whole.

### **1.3. Basic Research Questions**

The research paper looks at the quality of teacher preparation programs (TPP) implementation in Colleges of Teacher Education (CTE) in SNNP Regional State.

The quality of implementation in this context will mean the extent to which the delivery and institutional support mechanisms of TPPs are consistent with national standards in teacher education and are effective in producing competent, motivated and professionally efficient primary teachers.

In this regard, the research questions addressed in the study are as follows:

1. How do instructors, recent diploma graduates, and instructional leaders perceive implementation quality in the teacher preparation programs of their colleges?
2. To what extent in-college factors specifically instructor competence, leadership effectiveness, trainee teachers' professional attitudes, and the adequacy of infrastructure and learning resources influence the implementation quality of teacher preparation programs in the SNNP Regional State Colleges of Teacher Education?
3. To what extent external (PEST) factors specifically political support and policy continuity, economic and funding conditions, social perceptions of teaching, and access to educational technology affect the implementation quality of these programs?
4. In what ways do in-college factors interact with or mediate the effects of external (PEST) factors on the implementation quality of teacher preparation programs in these colleges?

## **1.4. Objectives of the Study**

### **1.4.1. General Objective**

To investigate how in-college and external (PEST) factors influence the implementation quality of primary teacher preparation programs in Colleges of Teacher Education in the SNNP Regional State, as perceived by college instructors, instructional leaders, and recently graduated diploma teachers.

### **1.4.2. Specific Objectives**

This study specifically aims to:

1. Compare differences in perceptions of implementation quality among instructors, instructional leaders, and diploma-graduate teachers.
2. Measure the extent to which in-college factors such as instructor competence, leadership effectiveness, trainee teachers' attitudes, and resource adequacy influence the implementation quality of teacher preparation programs.
3. Evaluate the effects of external (PEST) factors including political, economic, social, and technological conditions on the implementation quality of teacher preparation programs.
4. Examine the mediating role of in-college factors in the relationship between external (PEST) factors and the implementation quality of teacher preparation programs.

## **1.5. Significance of the Study**

The research will have a substantive contribution to the understanding, practice and policy of teacher preparation in the SNNP Regional State. It has a threefold practical, policy and theoretical importance.

At the institutional level, the study will produce an empirically based evidence on the role that individual and interactive influence of specific in-college factors, including instructor competence, leadership effectiveness, trainee attitudes, and resource adequacy, have on program implementation quality. The results will empower college leaders and instructors to

implement specific and evidence-based changes. To be precise, the findings will guide the development of a self-evaluation and quality improvement model which the Colleges of Teacher Education (CTEs) may adopt to track and empower the essential features of their programs. This kind of structure can inform improvement agenda in curriculum delivery, practicum supervision and professional mentoring. By so doing, the study will offer practical recommendations, as opposed to mere abstract recommendations.

On the systemic level, the study will provide context-specific evidence to guide the regional and national education policy. This will assist policy analysts to understand the existence of external conditions that slow or facilitate successful implementation of programs by incorporating political, economic, social, and technological (PEST) factors in the analysis. The results will have a direct bearing on the teacher recruitment and deployment methodologies, the funds at the disposal of CTEs and curriculum standardization reforms that the Ministry of Education and regional bureaus are currently responsible of. The study will, therefore, contribute to the creation of a more adventurous and justifiable teacher education policy framework that would reconcile institutional realities with national dreams of quality education.

The research has three significant implications on theory and methodology at the scholarly level. First, it empirically generalizes the application of PEST analytical model to business and policy analysis on the issue of teacher education, thus offering a localized model of how macro-environmental forces can be applied in teacher education program implementation in low-resource environments. Second, it brings to the literature on teacher education program implementation by looking at the relationship between institutional and external variables, this being a research area that has been under-researched in Ethiopia and other similar Sub-Saharan systems. Third, in methodology, the sequential explanatory mixed-methods design reveals the use of a combination of both quantitative and qualitative data to provide a more holistic and more context-based insight about the implementation processes. This is a combined methodology that would overcome one of the key weaknesses in earlier Ethiopian research, where most have been based on descriptive or single methods designs.

Taken together, these contributions make a strong empirical and theoretical base on the constant improvement of the teacher preparation programs both in the SNNP Regional State and the larger world. The research does not simply define gaps but offers evidence-based guidelines on how institutions can be fortified, policy adjusted, and future research conducted in the system of teacher education working under contextual restraints that are characteristic of low- and middle-income nations. It has, therefore, concrete potential in the development of the conceptualization, provision and support of teacher preparation within the Ethiopian decentralized education system.

### **1.6. Scope of the study**

Delimitations in this study refer to conceptual, contextual and time-based limits that the researcher deliberately set to stay focused and to have conceptual coherence. These limits explain the areas covered by the research and those deliberately omitted.

The research paper is constrained to the investigation on the effects of the chosen in-college and external (PEST) variables on the quality of implementation of teacher preparation programs (TPPs) in Colleges of Teacher Education (CTEs) in SNNP Regional State.

Professional competence of teachers, effectiveness of the institutional leaders, professional attitude of trainee teachers and access to learning resources and facilities are the in-college factors. These dimensions were selected since previous empirical research and national assessment reports had determined them to be fundamental factors of program effectiveness in the Ethiopian teacher education reform environment but their concurrent effects had not been experimented in a comprehensive way.

The analyzed external (PEST) factors, including political, economic, social, and technological ones, are conceptualized in a specific way, which assumes natural facilitating or inhibiting conditions of the program implementation. The political factors in this analysis include national and regional policies of teacher education, governance, and an investment in education change; the economic factors include the level of funding, resource allocation, and employment consequences of graduates; the social factors are the societal attitude towards the

teaching profession and community support, and technological factors involve access to and the adoption of the use of digital tools in teaching and learning. The macroeconomic circumstances or social problems that lie beyond the area of education are beyond the study.

The framework of Educational Implementation Theory facilitates the analysis, and it is constrained by the conceptual prism of the PEST analysis. The study narrows down to the relationships implied by these frameworks in particular, the interaction between internal institutional capacities and the external systemic factors in the creation of the quality of implementation. There are other theoretical viewpoints of teacher professional identity, pedagogical innovation, or organizational change that are not discussed in this study.

The study targets four Teachers Education Colleges found in the SNNP Regional State. These institutions were chosen to give a diverse contextual situation urban and rural environment, institutional maturity, and a variety of administrative structures thus giving a balanced region-wide view. The results are however not to be statistically generalized to all the teacher education colleges in Ethiopia, they apply to the local realities of the participating institutions.

The sample is restricted to three stakeholder groups that directly participated in teacher preparation programs implementation; college instructors, instructional leaders, and teachers who graduated the diploma in 2018-2022. This cohort of five years was chosen due to its coincidence with a time of current teacher education reform and offers recently relevant experiences, as well as those of policy-relevance. To ensure comparability in the new diploma program structure, graduates and members of staff before 2018 or who followed alternative teacher education routes (Example degree level programs) were excluded.

Implementation of quality of dependent construct is restricted to measurement and perception indicators at college level. In particular, it covers the faithfulness of curriculum implementation, effectiveness of instructions practices, resource availability, resource use and perceived readiness of graduates to teach in primary-school. It excludes the long-term student learning outcomes within the primary schools and external examination outcomes because they are outside the institutional scope of the study.

In order to keep the analytical focus, the research does not discuss:

The individual traits or previous learning skills of student teachers before joining CTEs

Micro level analysis of curriculum design

The quality or result of primary schools which get CTE graduates.

These exclusions made this research focused on program implementation processes in the teacher education institutions per se.

### **1.7. Limitations of the Study**

Any research design has some limitations that determine the scope of the findings, its validity and generalizability. The current research is not an exception. Although a lot of effort was put into the rigor and reliability, a number of methodological and analytical limitations should be taken into consideration.

The research used a sequential explanatory mixed-methods study that represented a combination of both quantitative (survey) and qualitative (interviews and document inquiry) data, which allowed a more profound insight into the implementation of teacher preparation programs. Although this method provides a full picture, it is still restricted in the sense that it cannot exhaust the dynamic and contextual interaction between in-college and external (PEST) factors across time. The cross-sectional design of both phases observed relationship is a condition at one point as opposed to longitudinal trends. The use of causal inferences therefore should be done with caution and results should be viewed as a pointer as opposed to the ultimate determination of current systemic trends.

A significant part of the information was based on self-reported data of instructors, instructional leaders, and new graduates. This data is vulnerable to social desirability bias, recall bias and potential exaggeration of response as a result of institutional evaluation. Even though there is close attention paid to the development of the instruments, pretesting, and guarantees to confidentiality, a certain bias might still be observed, which can affect the

accuracy of the attitudinal and perceptual results. On the same note, measuring implementation quality entailed composite measures that do not necessarily cover the qualitative aspects of pedagogical practice and leadership processes.

The research was carried out in four Colleges of Teacher Education in the place of SNNP Regional State. The sample of these institutions was chosen intentionally to ensure variety in terms of size, location, and administrative capacity but it might not be a true representative of CTEs in this wide country. Thus, one should make generalizations about the findings only with care about the other contexts. Moreover, the addition of 2018-2022 diploma graduates concentrates on a reform-acting interval, which makes it more relevant, but does not provide a picture of previous or subsequent policy cycles.

The quantitative study was based largely on the correlational and multiple regression analysis methods in finding associations of the internal and external variables and the quality of implementation. These methods detect relationships but do not determine causality and thus allow the possibility that there are unmeasured mediating variables. Similarly, the qualitative stage, which was examined by using thematic coding, was constrained by the interpretive bias of the researcher and could introduce some subjectivity to the coders. This risk was minimized but not eradicated by triangulation between data sources.

Educational implementation theory and PEST analytical framework were used as the conceptual framework of the study. Although these models offered a consistent framework in which the results can be interpreted, they can be limited to representing all the aspects of the dynamics of teacher education, including individual motivation and cultural or institutional change dynamics that can be found outside the frameworks selected. On the same note, contextual elements that are specific to Ethiopia like regional political re-alignments and administrative transitions can provide interactions with the variables of the study that are not adequately captured under this theoretical context.

Overall, the limitations identified above do not undermine the validity of the research findings. Rather, they delineate the specific contextual and methodological conditions under which the conclusions should be interpreted. By clarifying these boundaries, the limitations enhance the

transparency and rigor of the study and help prevent overgeneralization of the results. At the same time, they point to several meaningful avenues for future research. For instance, longitudinal designs could capture changes and causal dynamics over time, geographic expansion could improve the generalizability of the findings across different contexts, and deeper theoretical integration could further strengthen the explanatory power of the framework employed. Collectively, these opportunities provide a foundation for extending, refining, and critically engaging with the findings generated in this study

## **1.8. Operational Definition of Key Terms**

The following terms are used in the contextual meaning in this study, and they are as follows:

***Colleges Catchment Area:*** This is the geographical area, including geographical zones and special woredas, of as the initial entry point to teacher education of the Southern Nations, Nationalities, and Peoples (SNNPR) colleges of teacher education.

***Colleges of Education:*** These are regional colleges run by the Regional Education Bureau in the SNNPR (former), in charge of preparation primary school teachers in a systematic curriculum. These are officially referred to as teacher preparation colleges and their structure and the course programs are gathered under the regional supervision.

***Diploma Graduated Teachers:*** teachers who graduated in a three year (10 +3) teacher preparation course in SNNPR colleges of teacher education and was granted a diploma in teaching, according to the standards of the Ministry of Education (MoE) (2009, 2022). The fulfillment is checked on the basis of academic records and diploma certification.

***Implementation:*** SNNPR colleges of teacher education implement the intended educational practices, such as curriculum delivery by instructors, teaching practice, provision and use of resources, performance by instructional leaders to train quality primary school teachers. This is quantified by monitoring instructional lessons in classrooms,

examining records of curriculum implementation, obtaining stakeholder opinion, and assessing the use of resources by auditing teaching resources and facilities.

***In-College Factors:*** Variables that are controlled by the college and that affect teacher preparation quality programs, such as the supply of educational facilities (for example, classrooms, libraries), the competences of instructors in the implementation of the curriculum, the attitudes of diploma graduate teachers to the program and the profession, and leadership competencies.

***Instructional Leaders:*** The people in SNNPR colleges, such as deans and members of the academic commission (department heads and directorates) who demonstrate authority and behaviors that help facilitate teacher preparation and college objectives. The measure of effectiveness is in the perceptions of research participants and in the consistency of actions with program goals through interviews and performance reviews.

***Instructors:*** Teachers who work in the colleges of teacher education in the SNNPR primary school, in charge of presenting the curriculum, and preparation teacher candidates. They are distinguished by their record of employment and qualification. The measures of curriculum implementation competencies are teaching evaluation, comments of the research participant, or classroom practice observation.

***Out-of-College Factors:*** Are external variables those SNNPR colleges cannot control, including PEST factors that include political, economic, social and technology issues. This study advances the knowledge on the quality of Teacher Preparation Program (TPP) implementation. Measurement is an examination of PEST influences on the program implementation.

***Perceptions:*** Beliefs, opinions, or attitudes of diploma graduated teacher, instructors, and teacher preparation program implementation quality to the instructional leaders. They are measured either through Likert-scale questions in structured surveys and interviews

representing personal opinion, or in qualitative analysis to reach more in-depth insights.

***Pragmatism:*** A research philosophy that may guide the study, which focuses on practical consequences and Creamer (2018), define actionable outcomes as the ones based on the theoretical assumptions. This will be operationalized through designing a mixed-methods study that will integrate both quantitative (Example program outcomes) and qualitative information (Example stakeholder experiences) to provide practical answers to how programs can be improved.

***Primary School Teacher Preparation:*** The academic course in SNNPR college's preparation primary school teachers who are teaching grades 1-8, as per MoE (2009). Primary School Teacher Preparation Program: A systematic course in SNNPR colleges of teacher education aimed at instilling in candidates skills and knowledge that can enable them to teach in primary schools. It will involve an assessment of the percentage of programs attended, performance of the graduates in the teaching practicum and diploma qualifications as set by the ministry of education.

***Southern Nations, Nationalities, and Peoples Region (SNNPR):*** This administrative region was previously one region in Ethiopia that is currently split into four regions which originally had four teacher preparation colleges. It is identified according to historical regional boundaries and confirmed by present administrative documentation of the location and affiliation of the colleges.

## **1.9. Organization of the study**

The dissertation was divided into five chapters, with Chapter One serving as the introductory part. Chapter Two explored the what, why, and how of the work, offering a summary of the theoretical and conceptual underpinnings of the subject matter. Chapter Three contained a description of the design and methodology used in the research. Chapter Four then provided the findings of the preliminary phases of the study. In this chapter, the analysis of the quantitative results obtained through the questionnaire is presented, and in the same chapter,

the qualitative results through semi-structured interviews and analysis of the documents are discussed. In addition to the two phases, a discussion and interpretation of findings with reference to the current literature and the context of the research were provided. Lastly, Chapter Five concluded the key findings, made conclusions, and described the implications of the study.

### **1.10. Summary of the chapter**

This part of the work mainly focused on the introductory join such as the background of the study, the reason the researcher undertook the research, the statement of the problem, the objectives of the study, research questions that informed the study, the importance of the study, scope of study, limitations and challenges and definition of major concepts. It also described the set up and plan of the research. The researcher presented guidelines with regards to TPP implementation quality in the next chapter. The next chapter focused on a review of the pertinent literature according to the research questions and theoretical framework.

## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

#### INTRODUCTION

The standard of teacher preparation programs (TPP) is a factor that determines the production of competent teachers, especially in the SNNP Regional State College of Teacher Education in Ethiopia. This attribute can be discussed, and an analysis of the input done by various players in the implementation of teacher preparation, instructional leaders, college instructors, and teachers of the diploma-prepared. Instructional leaders have the capacity to determine the quality of programs by offering learning environments and directing the practices in the institutions. The most important stakeholders in the curriculum implementation process by teachers are expected to portray good pedagogical behaviors as well as demonstrate faithfulness to the curriculum. The significance of the teachers of diploma graduates is also not secondary, as the subsequent survival of the learning process and their further transfer to the professional practice are the results of the effectiveness of the provided preparation.

The chapter provides a review of the most appropriate scientific literature on the quality. It involves studies on the conceptual background of teacher preparation, theoretical and analytical frameworks involved in the evaluation of educational programs, like process models, determinant frameworks, implementation theories, and evaluation models. It is also able to transmit the main in-college and out-of-college variables that affect the quality of the TPP implementation in the Ethiopian situation. Describe the teacher preparation program development. Finally, conceptualize these variables; the study separates between in-college and out-of-college variables.

#### **2.1. Concepts of Teacher Preparation Program**

##### **2.1.1. Definition of teacher preparation program**

Instructors' Teacher Preparation Programs (TPP) or teacher education (also known as teacher training) refer to complex pathways that are created to prepare aspiring teachers with the

knowledge (professional), pedagogical skills, and ethical dispositions that they will need to work successfully in classroom and school settings. In essence, these programs will integrate academic studies (theory, pedagogy, subject content) and clinical experiences (practicum, student teaching, mentorship) between the educational theory and classroom practice.

According to the Encyclopedia Britannica (2025), teacher education consists of formal and systematic programs to equip teachers to work in elementary and secondary levels. The Encyclopedia highlights two crucial stages of teacher learning: pre-service preparation (before getting employed) and in-service development (in the course of practicing professionally). This two-sidedness highlights the importance of teacher preparation as a lifelong process of professional development and not a single training experience.

Eke et al. (2024) go further to explain teacher education as a logical system of policies, procedures, and institutional provisions that create knowledge, attitudes, behaviors, and skills that are required to promote effective classroom practice and involvement with the community. They differentiate between pre-service (initial teacher education, induction, early career support), sustained professional growth (continuous professional development), and teacher education in Mexico as a lifelong process.

Teacher preparation is used in legal terms as a means of professional certification. According to Garner (2011), a TPP is any program that can state an individual as a licensed educator under state-sanctioned institutions or listed alternative paths. This definition places the TPP in the context of the regulatory framework that will guarantee adherence to the government and educational standards.

Hollins and Warner (2021), among other scholars, theorize TPPs in the form of networked interdependent learning experiences, academic and clinical, that are aimed at producing competent educators whose perspectives and theories are based on pedagogy, mastery of content, and reflective practice. Equally, the National Academy of Education (2013) emphasizes that TPPs play an important role in the development of teachers who essentially have pedagogical content knowledge and can dynamically implement it within the various classroom environments.

In most settings, such as the diploma-level or 10+3 teacher training models, TPPs help in getting ready to teach at the elementary level. These programs are usually centered on subject-specific pedagogy, child development, and applied teaching practice, which is the foundation of professional preparedness prior to advanced degrees or certification.

To conclude, the Teacher Preparation Program is not merely a training course but rather a systematic process of professional formation of teachers, which is part of the formation of quality teachers, compliance with the standards of licensure, and efficient classroom work.

### **2.1.2. Quality of Teacher Preparation Program**

Quality is an important element of the discourse of education that is often vaguely defined. Whereas general definitions define quality as being equal to, for example, excellence or fitness to purpose (Kahsay, 2012), when it comes to teacher preparation, one should define quality in terms of educationally, situational applicability, and higher results.

The meaning of quality in education, as Stufflebeam and Coryn (2014) point out, is relative and, therefore, what is considered quality in one institutional or national context would not be the same in a different one. The aspect of quality in teacher education is viewed in different ways, such as input, process, and output.

The input deals with teacher qualification, curriculum relevancy, instructional materials, and facilities in the institution. Pedagogical delivery, mentoring practices, and coherence of coursework/clinical experiences are pedagogical quality processes. The quality of output is linked to the skills of graduates, their performance in the workplace, and their capability to improve the results among students.

A high-quality TPP will subsequently imply that all the elements are coherent in order to produce effective and flexible teachers. As Yirdaw (2016) claim that such a high-quality program implementation is possible only when it is in accordance with the mission and goals of an institution.

### **2.1.3. Evidence of Quality in TPPs**

A lot of empirical evidence is found with attributes that distinguish good TPPs. Goldhaber et al. (2014) found that the successful use of student teachers with the help of successful mentors made a great impact on the readiness of classrooms by novice teachers and student performance. Ronfeldt et al. (2018) determined that subject-specific pedagogic training (forexample, literacy pedagogy or mathematics pedagogy) led to improved academic outcomes of students. Similarly, Cant et al. (2021) identified that well-monitored structured clinical experiences with adequate feedback loops produced more confident teachers, adaptive teachers, and retention-prone ones.

Feuer et al. (2013) concentrate on the institutional inputs as essential to maintain the quality of the programs managed at any moment by financial, human, and physical inputs. The teacher education is an effective and coherent system when the factors are optimized to produce effective and reflective teachers.

At the current point, the use of technology and evidence-based teaching practice is recognized as a defining quality of high-quality TPPs as well (Ingersoll and Tran, 2023). Graduates of such programs demonstrate not only their greater effectiveness at first, but also their retention and continuity in the teaching profession.

However, Burke and DeLeon (2020) and the National Council on Teacher Quality (2013) include variable rigor, the lack of sustained exposure in a clinical setting, and curriculum staleness in the ranks of weaknesses that continue to undermine most programs. These findings indicate the significance of accreditation policies to regulate the standards, accountability, and evidence-based improvement.

The quality of the Teacher Preparation Program is therefore not a monolithic occurrence, but rather a multidimensional phenomenon that is continuously changing based on institutional capacity, curriculum soundness, real-world training, and graduates' outcomes. With TPPs developing theory and the practical practice that are being implemented at a time when they coincide with national standards and are subject to change at the educational path, they not only produce technically competent teachers but also transformative professionals that can increase student learning and equity in education.

Good TPPs play a critical role in developing socially responsible and competent pedagogues. Effective teacher preparation, as discussed by Darling-Hammond et al. (2019), is a compound of both subject matter knowledge and inclusive pedagogy that has the potential to satisfy the needs of learners of various backgrounds. It is specifically the role of the clinical experiences, especially the extended student teaching, which is involved in bridging between the abstract theory and the viable classroom competence.

The state and national standards permit standardization in the preparation of programs. As revealed by Goldhaber and Ronfeldt (2020), an increased adherence to the existing standards results in a greater number of teachers ready to work in classrooms and be able to react to high-need circumstances in schools.

Beyond individual capacity, high-quality TPPs mitigate such systemic problems as teacher shortage and attrition. Sutcher et al. (2019) indicate that one of the reasons that cause teacher burnout during the first periods of their careers is the lack of preparation. Ingersoll and Strong (2011) prove that the higher the clerical mentoring and residency models, the higher the retention of teachers and their satisfaction.

Moreover, TPPs are not implemented by means of a one-size-fits-all approach, which presupposes that their effectiveness is determined by the in-college and out-of-college factors (Burns et al., 2023).

In-college factors play a significant role in shaping students' academic experiences and learning outcomes. These factors include curriculum design, which determines the relevance, coherence, and alignment of course content with learning objectives; faculty knowledge and expertise, which influence the quality of instruction and mentorship provided to students; and institutional leadership, which guides academic priorities, policy implementation, and the overall learning environment. Additionally, the availability of resources such as simulation laboratories and technology-based instructional tools supports experiential learning and enhances students' ability to apply theoretical knowledge in practical contexts. Together, these in-college factors contribute to the effectiveness of educational delivery and the overall quality of the academic experience.

Among the out-of-college factors, policy stability, adequate funding, and socio-cultural attitudes towards teaching and changes in technologies can be mentioned (Akiba and LeTendre, 2021).

The performance of the program can also be improved with the help of effective leadership and policy congruence (Levine, 2020; Darling-Hammond and Oakes, 2021). Effective administrators develop coherent curriculum policies and have school-educational institution relationships that provide student teachers with the opportunity to work in the real-life practice context.

The recent accountability shifts such as outcome-based evaluation alter the focus on the inputs to the programs to apparent teacher and student performance outcomes (Coachran-Smith et al., 2022). Evidence-based cycles of improvement ensure teacher education by combining data systems that bring together TPP performance and its K-12 results (Darling-Hammond and Hyler, 2020).

Finally, the continuous improvement process must be inclusive. Provided that the stakeholders of the college are involved in the program evaluation processes, as the Pare (2024) recommends, the competencies gained in TPPs are going to be day to day practice.

Comprehensively, good education systems are composed of high-quality teacher training. Not only does it produce good classroom practitioners, but it also addresses equity, teacher retention, and systemic change. High-quality TPPs incorporate: academic rigor, clinical immersion, cultural responsiveness, and data-based evaluation- collectively ensuring that future educators would be able to meet the continuously evolving needs of 21st-century learners.

## **2.2. Implementation and Program's quality**

### **2.2.1. Definition of Quality of Implementation**

Implementation Quality refers to how well the design of a program is put into practice. Durlak and DuPre (2008) define quality of implementation as the extent to which an intervention is implemented as per the model it is meant to implement. In the context of the TPP, this would involve having every crucial element, like subject-matter knowledge and proper pedagogical training, put into action with integrity and efficiency.

Implementation is, however, not a guarantee that will result in success on its own. TPPs must also be efficient and take into account adaptive elements that will not ruin their main structure (Kebede Teshome, 2023). Adaptive elements are differentiated to make the programs effective and relevant to their situations.

By implementing quality, it is put into place, making sure that the future teachers acquire the knowledge, skills, and dispositions necessary to make a positive contribution to teaching and student learning. According to Darling-Hammond et al. (2019), the formulation of the necessary points of the program, such as quality experiences and culturally responsive pedagogy, makes the difference between success and failure. A lack of a solid definition of key program components may lead to inconsistency in the implementation, which may cause either too stiff or unintended change, which undermines the program.

Research supports some of its core components, like clinical practice. Ronfeldt et al. (2021) discovered that those programs that offer about 15 weeks of guided learning generate graduates who have a more positive impact on student learning outcomes. Even though these points need to be preserved, local ownership is achievable through contextual modification, i.e., mode of delivery or culturally sensitive material.

The quality of implementation in the context of TPPs (Teacher Preparation Programs) is influenced by both institutional and contextual factors. A critical element in this framework is the skills and attitudes of the instructors involved. Darling-Hammond and Oakes (2021)

emphasize that effective pedagogy involves faculty who are academically well-prepared and capable of teaching within classrooms, all while upholding the integrity of the program.

On the other hand, unfavorable dispositions of student teachers towards the preparation experience are capable of decreasing engagement and the success of implementation (Cooper, 2024).

It is also significant in institutional resources. This was hampered by the fact that there is a limited supply of equipment, teaching aids, and funding (Likoko et al., 2013). Consequently, the quality-assurance mechanisms and effective leadership should be present to ensure program excellence (Nadeem, 2023).

Beyond institutional boundaries, there are external forces that are characterized by the PEST model: political, economic, social, and technological forces that affect implementation. The stakeholders can be assisted with the help of stable education policies and funding frameworks (Goldhaber, 2019; Hood et al., 2022), and economic barriers might restrict clinical placements and professional growth (Tesfaye, 2014). Social and cultural needs also influence the attitudes of teachers as well as the relevance of the programs (Darling-Hammond et al., 2024). Besides, TPP delivery can be promoted and complicated by the advancement of technologies, and that is why a solid argument in favor of regular faculty training in technology integration exists. Finally, the balance must be intentional in order to have a high-quality implementation. Implementation of core program elements should be done in an uncompromising way, whereas adaptive practices should be locally pertinent as well as evidence-based. The literature provides evidence that effective instructors, teacher enthusiasts, adequate resources, and a positive socio-economic and political environment are all factors that help to implement quality preparation and later performance of a teacher.

### **2.2.2. Aspects of Quality Implementation Improvement**

Quality of implementation is a multidimensional construct that consists of five dimensions that interact with each other, and they include: adherence, exposure (dosage), and quality of delivery, responsiveness of the participants, and program differentiation (Dane & Schneider,

1998). These interact in a complex system, which is determined by internal (institutional) and external (contextual) factors.

Adherence is the level of program implementation following a plan. This includes fidelity to the curriculum, contents, and practices of instruction. Faculty knowledge and training are also significant in gaining adherence (Zeichner, 2010), but external influences like accreditation requirements or political demands will either encourage or limit implementation.

The exposure (dosage) is the level of program delivery, which is the clinical hours and the supervisory sessions. Faculty capacity and funding can be very scarce, which lowers the exposure and field-experience opportunities (Ronfeldt, 2015; Ingersoll and Merrill, 2010). Technology opportunities, such as virtual teaching simulations and other types, can be used to supplement practice in case of physical placement constraints (Dieker et al., 2014). Quality of delivery is an indication of the effectiveness in delivering TPP. It involves the pedagogical competence of instructors, enthusiasm, and communication. The active learning strategies assist faculty to attain greater levels of engagement and instruction (Boyd et al., 2009). The quality of delivery can also be influenced by social perceptions of teaching: in case the profession is not highly rated, the motivation and vitality of the teaching staff are likely to decrease (Ingersoll, 2011).

Responsiveness of the participants indicates the degree of involvement and perceived benefit of the program to the student teachers. When the programs are in line with the realities in the classroom, they are more likely to draw enthusiasm and commitment (Hammerness and Craig, 2016). The social and economic conditions also affect motivation and persistence.

Program differentiation identifies features that make a TPP stand out among others, such as a focus on culturally responsive pedagogy or a new supervisory model. However, can be obsessive in the way they are politically interfered with or pressured to gain accreditation, which can compromise differentiation and lead to monotonous, less significant programs (Zeichner, 2010). These dimensions are dynamic: even with high adherence and exposure, there can be poor results when there is low quality of delivery or low responsiveness of the

participants. Implementation is then not a mechanistic process, but an interpersonal process that needs some kind of balance between structure and flexibility that will ensure that it is coherent, engaging and relevant.

### **2.3. Measuring implementation Quality**

The measurement of the quality of implementation allows the researcher to understand the extent to which TPPs are implemented as intended and to identify a discrepancy between the intention and reality. Evaluation of five key dimensions: adherence, exposure, delivery quality, responsiveness of participants, and differentiation can aid programs to detect deviations, validate theoretical assumptions, as well as streamline internal operations (Cochran-Smith et al., 2016; Ronfeldt, 2015). Regular review minimizes program drift and contributes to maintaining focus in programs and expected results.

#### **2.3.1. Maintaining Implementation Reality**

The assessment of implementation quality will tell how the implementation of the program is going. Changes in faculty capacity, resource provision, or stability in the policies can cause an alteration of the initial model (Hammerness and Craig, 2016). Recording these contextual differences enables the evaluators to identify distinctly between program design and implementation problems (Ingersoll, 2011). This transparency leads to a smaller number of misconceptions regarding program outcomes and influences evidence-based reform.

#### **2.3.2. Testing of Theoretical Assumptions**

Basic assumptions of the program can be tested using implementation data. As an illustration, a program can assume that clinical exposure positively correlates with teacher preparedness, but when the supervisory support is uneven, the relationship might not exist (Ronfeldt, 2015; Dieker et al., 2014). The interaction of adherence, exposure, and delivery will help to comprehend the combination of these dimensions to influence the outcomes (Darling-Hammond, 2017; Cochran-Smith et al., 2016).

#### **2.3.3. Eschewing Misinterpretation of Findings**

TPP results can only be accurately interpreted by acknowledging implementation differences. Type III errors occur when evaluators use poor program design as the cause of poor results when the true cause of the result is poor implementation (Ingersoll, 2011; Boyd et al., 2009). Consideration of environmental sensitivity, alongside political, social, and economic issues, ensures interpretations are both fair and supported by empirical evidence.

#### **2.3.4. Improving a Culture of Continuous Improvement**

The summative evaluation should not be the only area where implementation data is utilized; continuous improvement should also be employed. The programs are able to detect the frequent problems of implementation, including inconsistent supervision or the absence of instructional modules, and apply specific interventions, including faculty development workshops or an alternative mentoring system (Darling-Hammond, 2017). The provision of this cycle instills a culture of continuous learning that is evidence-based.

#### **2.3.5. Walking a Line between Fidelity and Adaptation**

Excessive adjustment can lead to decreasing fidelity, and adherence to the original model may serve as a barrier to responsiveness. Good programs will find a balance and enable meaningful, research-based adaptations (that is, use of local cultural content) without sacrificing important components (Zeichner, 2010; Ronfeldt, 2015). Monitoring implementation assists in differentiating beneficial change and malicious drift.

#### **2.3.6. Making Quality Monitoring an Institution**

Observation of the implementation process should be a regular TPP activity. One of the strategies is classroom observation, feedback system, and internal audit of instruction, which is aimed at diagnosing any emerging issues and responding, in a data-based manner (Boyd et al., 2009; Hammerness and Craig, 2016). Monitoring can support quality and adaptive learning and maintain the integrity of teacher preparation activities in the long term by offering direct feedback on a regular basis.

Implementation quality is not only a process component of teacher preparation but the key component that links the design of the program with institutional capacity and educational

results. TPPs can enhance their quality and contextual relevance through integrating fidelity and flexibility and by bringing systematic monitoring and feedback to institutional practice. Despite the large amount of research on the structure and outcomes of teacher preparation programs, empirical studies about the operationalization and maintenance of quality of implementation in different institutional and contextual conditions are limited. Such dimensions as adherence and exposure are the focus of past researchers (Darling-Hammond et al., 2019; Ronfeldt, 2015; Cochran-Smith et al., 2016), but these aspects are not studied together with each other or the way the conditions in an institution support or disrupt successful implementation.

Research also has a tendency to confound the general quality of TPP with the quality of the program implementation, without considering the impact of processes other than the program design on the preparedness of teachers. Specific deficiency of context-specific research, in particular in the SNNP Regional State of Ethiopia, where the implementation of TPP is predetermined by specific political, economic, social, and technological factors. This paper therefore aims to bridge that gap by exploring the interactions between institutional capabilities and external environmental forces and the multidimensional aspects of implementation quality in teacher preparation programs.

#### **2.4. Theoretical Frameworks of Evaluating Program Implementation**

To consider the quality and effectiveness of the implementation of teacher preparation programs (TPPs) and measure them on a surface level, it is necessary to go beyond the results and see how and why the implementation is successful or unsuccessful. Such complexity requires the application of the existing theories, models, and frameworks (TMFs), which provide systematic insights into the process of change analysis (Nilsen, 2015). TMFs help the researcher to unravel the multiplicity of interacting factors, individual, organizational, and contextual, that affect the adoption and sustenance of innovations.

Though the vast majority of implementation frameworks were initially fashioned in the healthcare field, they can be applied in education, and their concepts can be adapted to the

challenges of introducing new pedagogical practices, such as competing priorities, inconsistent stakeholder involvement, and institutional inertia (May et al., 2016). In that regard, TMFs are analytic lenses that can assist education researchers to diagnose obstacles, to see the enablers, and to determine how much innovation like TPPs is feasible and sustainable.

Nevertheless, educational reform as an area has tended to experience a lack of consistency in studies into theoretical use, wherein models may be adopted inconsistently, superficially, and unjustifiably. This fragmented use constrains the cognition of intricate pedagogical processes (Sims et al., 2021). Thus, the evaluation of TPP implementation requires a multi-framework method that will combine complementary models and will be based not on one theoretical source. This way gives a more detailed explanation of how institutional preparedness, teacher belief, leadership, and policy climate affect the path that new practices take (Damschroder et al., 2009; Greenhalgh et al., 2004).

It is against this backdrop that this study accepts the fact that a successful assessment of TPP implementation requires the purposeful interplay of a number of TMFs, not as such, but because each of them throws some light into various dimensions of implementation quality. The next section critically evaluates some of the main frameworks applicable in educational settings and how each of them brings about a deeper insight into the program implementation process and how, collectively, they are used to support the conceptual underpinning of this study.

#### **2.4.1. Assessment of Theoretical Frameworks to Implement the Program**

Implementation science groups TMFs into 5 functional categories that are process models, determinant frameworks, classic theories, implementation theories, and evaluation frameworks (Nilsen, 2015). All the categories have their own analytical advantage in the initiation, embedding, and sustainability of educational programs. Representative frameworks are summarized in the sections below and discussed in the teacher preparation program reform.

## **Process Models**

Process models explain the implementation process, which passes through time and follows the process of exploration to sustainability. Some of the frameworks, such as the exploration, preparation, implementation, and sustainment (EPIS) framework and the quality implementation framework (QIF) can be applied to TPPs.

The QIF is an implementation based on the 25 preceding models and divides implementation into four sequential steps: exploration, installation, initial implementation, and complete implementation (Nigatu et al., 2025; Meyers et al., 2012). It lays stress on planning and feedback systems pre-implementation that are overlooked in education reform. In the case of teacher education, the QIF is a structured road map on how new curricula or competency-based tests can be slowly institutionalized (MoE, 2018). Likewise, the EPIS model highlights the shift in the external evidence-generation processes to the localized adaptations, which contribute to a sustained relationship between the training in college and the practice in schools (Teresa, 2022).

Combined, the models inform the time-based logic of educational innovation, assisting programs to shift on pilot levels to more lasting transformations instead of brief-lasting change.

## **Determinant Frameworks: How to make sense of contextual Influences**

Determinant frameworks assist in determining factors that influence or prevent the implementation. The consolidated framework for implementation research (CFIR), as well as active implementation frameworks (AIFs), is two popular examples that are of great relevance to the educational analysis.

CFIR divides implementation determinants into five domains, which include: intervention characteristics, inner setting, outer setting, individual characteristics, and implementation process (Damschroder et al., 2009). This permits a search into the interaction between institutional culture, policy pressures, and teacher attitudes to create success in TPP

evaluation. AIFs (Tefera et al., 2024) go an extra mile by concentrating on leadership of the capacity-building mechanisms, data systems, and team-based improvement cycles in the heart of sustainable change in teacher preparation. Being used jointly, CFIR and AIFs can prompt evaluators to think not about whether new teaching methods are adopted or not, but about why and under what circumstances.

### **Classical Theories: Theories of Behavioral and Organizational Change**

Classic theories on social and behavioral supplement implementation frameworks by explaining the mechanisms behind human and organizational behavior. The Diffusion of Innovation (DOI) theory by Rogers (2003) is an insight into the way a new practice of teaching diffuses through the social systems, where innovators are identified on one end and laggards on the other. By using the DOI to TPPs, various strategies can be applied to take into consideration the different levels of readiness within teacher educators.

At the personal level, the Theory of Planned Behavior (Ajzen, 1991) and Social Cognitive Theory also highlight the importance of self-efficacy, attitudes, and perceived social norms in influencing intention to implement new pedagogies. Organizational Theory (Scott, 2003) at the institutional level describes the influence of external policies, expectations of the community, and internal governance on the adoption of reforms. Together, these theories define the motivational, cognitive, and structural strata, which inform the implementation behaviors.

### **Implementation Theories: Reasoning the Dynamics of Change Embedding**

The implementation theories pay direct attention to the way in which innovations are normalized in real practice. The adoption and maintenance of new practices occurs through a process of normalization described as four dynamic processes: coherence, cognitive participation, collective action, and reflexive monitoring (May & Finch, 2009), in which new practices become legitimate and used in day-to-day activities. This is what makes Normalization Process Theory (NPT) especially useful in terms of comprehending whether reconstructed TPP elements are incorporated in the professional culture of teachers.

Normalisation Process Theory (NPT) is supplemented by Organizational Readiness for Change (Weiner, 2009), which highlights the psychological and structural ability of the institutions to implement change. When it comes to education, pre-assessment of the readiness to undertake curriculum or policy changes is essential in order to prevent the so-called surface-level implementation, where compliance necessarily substitutes actual involvement.

### **Evaluation Frameworks: How Can Implementation Success Be Measured?**

Lastly, assessment systems give a means of determining the effectiveness of implementation processes in meeting targeted objectives. The Implementation Outcomes Framework (Proctor et al., 2011) is a framework that recognizes eight major criteria, namely, acceptability, adoption, appropriateness, feasibility, fidelity, cost, penetration, and sustainability, which evaluate the process quality beyond academic performance. Equally, the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance), Framework (Farah et al., 2025; Glasgow et al., 1999) considers reach, effectiveness, adoption, implementation, and maintenance, which also provides a multidimensional approach to understanding both the short-term and long-term impact.

In the case of TPPs, the application of such frameworks will make sure that evaluation is sensitive not only to the student outcomes, but also to the institutional and behavioral circumstances that make long-term change possible.

#### **2.4.2. Rationale of Framework Selection**

Although the two frameworks provide different ideas, using one model will lead to the oversimplification of the multidimensional character of the TPP implementation. This paper hence suggests a combined evaluative methodology which incorporates: Process clarity from QIF, CFIR, and AIFs determines sensitivity, and Implementation Evaluation based on the Implementation Outcomes Framework.

This generalization gives a process-based explanation (how reforms happen) and a context-based one (why they fail or succeed). Through this express connection, the current study fills an important void in the existing literature, that is, the lack of theoretically based, multi-level

studies of the implementation, adaptation, and maintenance of teacher preparation reforms in complex educational systems.

Overall, the theoretical review highlights the fact that to assess the quality of TPP implementation, one will have to go beyond descriptive reports of reform activities. It requires an integrated theoretical framework that is able to incorporate the sequential, contextual, behavioral, and evaluative aspects of change. An analysis of this kind can be based upon the logical coherence of QIF, CFIR/AIFs, and the Implementation Outcomes Framework, which helps the theory align with the research objectives and the evaluation to go beyond shallow measurement at the level of real understanding of the sustained improvement of teacher preparation.

## **2.5. Internal and External Influencing Factors of Teacher Preparation Programs**

The preparation programs of the teachers depend on the interplay of internal (within the college) and external (outside the college) dynamic conditions. These facets are all components of a distributed ecosystem that defines quality of programs, sustainability and responsiveness. According to Nyambara et al. (2025), the identification of enabling and restraining conditions will help institutions to implement long-term evidence-based interventions that can enhance implementation. The consistency of institutional structures, institutional leadership, institutional curriculum development, institutional faculty capacity and institutional clinical preparation, and the institutional policy, institutional community, and technological environment is thus urgently needed.

### **2.5.1. Internal (within the college) factors**

Institutional conditions that directly influence TPP implementation are internal factors: leadership, organizational culture, staffing, and the availability of resources, curriculum, program coherence, and the quality of candidates' clinical preparation.

## **Organizational culture and leadership**

Implementation of the program requires effective leadership. Introducing a culture of innovation, open communication, and constant improvement into an institution provides a setting that leads to the preparation of teachers of high quality (Damschroder et al., 2022). Leaders with a persuasive vision who actively engage their teams and program details improve faculty morale and align faculty with both institutional and external demands (Hallinger and Heck, 2011). Such a leadership also serves the purpose of ensuring that the program processes are synchronized as opposed to being fragmented.

## **Faculty capacity and staffing**

Faculty knowledge and workload are directly associated with the quality of instruction, mentoring and evaluation. Full support of instructors enhances the coherence of the program and enhances the learning outcome of the candidates (Hallinger and Heck, 2011; Guskey and Yoon, 2009). Although faculty qualifications are important, the literature is largely silent on the role of workload, institutional support, and culture in mentoring and teaching quality. Faculty development programs can strengthen mentoring and assessment, though generic short-term training may not result in lasting improvements in instruction. This gap highlights the need for prolonged, practice-specific, institution-based faculty development models.

The qualifications, experience, and background of faculty members are obviously relevant to this issue, but it is surprising to see how little attention has been given to other factors which impact on mentoring and teacher quality, such as faculty workloads, institutional support, and institutional culture. A positive program on faculty development can greatly impact both on mentoring and teacher assessment, but training programs which tend to lack specificity can lead to little change on teacher quality.

The identified shortcoming in current research highlights the necessity for more tailored faculty development models that address the specific circumstances of higher education institutions. These models should stress long-term support and training that are directly relevant to what faculty members are actually doing on a daily basis to teach. This is one

manner within which educational colleges can build an environment that reinforces an ethos of ongoing improvement in this regard.

### **Resources on Educational Quality and Teacher Preparation**

There should be appropriate funding of instructional materials, field supervision and development of faculty (Fullan, 2011). The shortage of resources would probably result in a faculty workload that is too high, insufficient supervision and program discontinuity.

Finances play a crucial role in the acquisition of educational resources, field oversight, and staff capacity building. Without enough finances, institutions of learning will find it difficult to offer enough resources to enable a supportive environment within which learning can take place. As described by Fullan (2011) above, a lack of finances results in a poor standard of education, including difficulties in offering supportive services to both learners and staff. The absence of educational resources affects how lessons can be delivered and how lecturers can interact with learners.

Further, lack of funding may result in increased faculty workloads, which can be harmful to both teaching and mentoring functions. This is because, with limited funding, faculty members may be overwhelmed with other tasks that can take attention away from their main functions concerning teaching. This can affect teacher candidate supervision, resulting in poor guidance and support being provided to teacher candidates during their field experiences. This can affect faculty members' morale, as well as lead to faculty burnout, which can negatively impact teacher preparation programs.

At the same time, program discontinuity is one challenge that is particularly noteworthy, particularly when there is inadequate funding. Teacher programs that fail to attract sustained funding support may experience discontinuities or shifts that can affect the knowledge acquisition processes both for faculty staff and teacher candidates. Clearly, discontinuity can result in the breakdown of positive partnerships between schools and teacher training institutions, partnerships that play a pivotal role in shaping teacher training programs. To boost teacher training program quality, there is a need to attract funding to cover vital

resources, a step that will ensure instructors, as well as teacher trainees, make vital strides within their profession.

### **Program coherence and curriculum**

The curriculum must show a continuous theme in the programs. A coherent curriculum is a type of professional learning pathway which integrates pedagogical theory, national standards and clinical practice. By having such alignment to a high degree, candidates become more likely to combine theory and practice, as well as exhibit high levels of fidelity to the program (Hicks et al., 2022; Kassaye, 2013). However, new priorities and changes of policy mandates cannot allow many institutions to remain coherent. Standards based curricula are now suggested to be flexible; however, research still needs to be done on how institutions can be responsive without jeopardizing consistency.

### **Candidate Quality through Effective Clinical Preparation and Mentor Relationship**

Good clinical experiences are also still a major indicator to equip competent beginning teachers. The teacher candidates are provided with coached and well-supervised practice to transfer their theoretical knowledge, practice self-reflection, and gain confidence in real classroom practices (Herut & Setlhako, 2025). Placements are enhanced with the help of strong school-college relationships. Nevertheless, variation in the quality of mentors and placements available to the candidates discourages fair development. The possibility of scalable models that would imply standardized and sustainable clinical preparation has not been exhausted.

The reality of the actual setting learning system certainly hinders the quality of teacher preparation programs. In Ethiopia, however, many of these practices are seen as being hindered (Ageye, 2023; Tena & Motuma, 2024). The main reasons for the hindrances are that mentors are sometimes not prepared, student placements can seem arbitrary or unfair, and the relationship between schools and teacher education colleges is often not that strong. Prospective teachers' perspectives on their profession are often distorted. Some feel that they

are missing out on the right training when they enter the classroom or when they are not getting the right training.

There is not much solid research on how to build strong partnerships between schools and teacher preparation programs. Therefore, the real challenge now is to figure out how to select, support, and evaluate mentors. When programs understand this, everything falls into place: partnerships are strengthened, and the quality of teacher preparation programs is maintained.

### **Decentralized analysis and use of information**

Better integration of assessment systems is not yet common practice. Despite numerous assessment practices surveys, artifacts, and growth measures institutions often have poorly integrated compliance systems (Assefa et al., 2021; Tesfaye, 2014). Consequently, data are seldom useful for refining programs. There is a lack of empirical studies on holistic assessment systems that can generate practical insights and support continuous improvement for faculty and candidates.

Educational institutions generally put more emphasis on compliance driven evaluations rather than utilizing their data to make informed improvements to programs implementation quality. This can result in available information being left unattended, which automatically results in fewer opportunities to grow and improve educational outcomes.

A research gap currently exists concerning holistic evaluation processes to provide actionable information relevant to both faculty members and candidates. Without credible research to support such processes, any educational institution might experience difficulties implementing relevant assessment approaches to serve teacher preparation outcomes.

To counter such issues, there is a need for a paradigm shift. Educational institutions need to work on designing holistic assessment frameworks that can combine different methodologies to enable a better understanding of program implementation quality. This can entail combining formative and summative assessment approaches into a single structure. Further, highlighting the applicability aspect of assessment information can make compliance tools into instruments

for continuous improvement. This is because organizations need to build on a culture that uses feedback information to improve TPP and processes.

Finally, promoting empirically oriented studies on holistic approaches to evaluation may offer insights on how more effective approaches can be developed and implemented by educational institutions. The future direction is to break down storage tower, emphasize actionable insight, and operate on empirically based research. Rather than promoting a compliance mentality, shifting attention toward more meaningful integration and use of assessment results can greatly enhance programs and serve both faculty and applicants much better.

### **Stakeholder misalignment**

TPPs operate within systems of policymakers, colleges, schools, and teacher candidates who have conflicting priorities. As presented by Negash (2006); Tesfaye (2014); Tena & Motuma, (2024) Policymakers focus on accountability; colleges face internal and external pressures that influence preparation; schools focus on immediate teacher needs; and teacher candidates face various constraints. Such misalignments lead to mismatched program expectations and piecemeal decision-making. These issues have not been adequately addressed in the literature, especially regarding how to reconcile different governance models to develop shared measures and decision-making processes.

#### **2.5.2. External (out of the college) factors**

External factors would describe the aspects of the external environment that play important role in design, delivery and evaluation of TPPs. These are policy environment, community engagement, socio-economic reality and technological developments.

### **Policy/regulatory environment**

Varied accreditation, licensure and accountability systems have impacts on institutional decision making regarding curriculum, assessment, distribution of resources. However, policy changes, however, can have a beneficial impact on quality and standardization, but the problem can be seen, in the case of institutions that do not have the capacity to meet the

requirements of regulations (Tareke et al., 2024). Adaptive leadership is required to reformulate policy requirements into the strategy that will hold the program together. These tensions are not thoroughly researched in terms of their negotiation in the institutions.

### **Community and stakeholder investments**

The incorporation of the community is useful in increasing the relevance and resilience of the program. Cases Partnerships with the parent, the local school and other community based organizations are used to ensure that TPP is context based (Fullan, 2011; Epstein, 2011). Inequality in distribution of resources and differences in degrees of participation by the communities are however likely to lead to unequal participation across the regions. Empirical research should be conducted on more partnering models contributing to equitable participation, particularly in marginalized environments.

### **Socio-technological conditions**

Due to the ongoing digitalization and the increasing social differences, the expectations of teacher preparation also evolve. Collaboration, reflection, and instructional design can be addressed with the help of technology, yet the reliance on digital infrastructure restricts innovation in most places (Bati and Workneh, 2021). The changes in culture necessitate culturally maintaining or responsive pedagogies and an increased level of social responsiveness. Technological inclusion/access should be part of the socially responsive institutional practices, and not many blended models have been adopted.

#### **2.5.3. Relation between internal and external forces**

The internal and external conditions are in a continuous relationship and impact the climate of TPP implementation. The CFIR framework (Aulia et al., 2025) indicates that the interaction between internal factors (management capacity, curriculum implementation, instructor competence, candidate attitudes, and resource allocation) and external conditions (policy, socio-economic factors, and availability of technology) occur. Internal processes may be used to help institutions deal with external pressures: effective leadership can weaken the impact of changes in policies, and effective community relations can enhance the applicability of clinical

practice. Constant feedback and decision-making that is supported by evidence are more appropriate in the setting where domains go hand in hand.

The implementation of TPPs entails establishing institutional structures, faculty capabilities, evaluation systems, community partnerships, policy coherence, and program consistency. Sustainable programs include strong leadership, a responsive curriculum, quality mentorship, and strategic external relationships. New models are based on cross-sector collaboration, data-informed improvement, and preparation strategies that equip teachers for a rapidly evolving educational environment.

In addition, The Fullan model of educational change emphasizes the intricate interplay between context, capacity, and implementation as essential elements for transformative practices in education. Context refers to the specific circumstances within which change occurs, acknowledging that each school's environment, culture, and community influence the success of initiatives (Fullan, 2015). Capacity involves the skills, knowledge, and resources that educators and administrators possess, which are crucial for enacting changes effectively. Finally, implementation focuses on the actual processes and strategies used to operationalize change, ensuring that new practices are integrated into the daily routines of schools. Fullan asserts that successful educational reform is not just about adopting new strategies, but requires a cohesive understanding of these three components working in harmony to create lasting improvements in teaching and learning environments (Honig, 2006). This model encourages educators to consider the holistic nature of change, suggesting that examining these interconnected elements can lead to more sustainable, impactful educational transformations.

## **2.6. Evolution of Teacher Preparation Programs**

The process of teacher preparation has undergone a worldwide change of informal education based systems to formal, professionalized systems of education. Traditionally, the process of teaching was considered an innate ability that was gained through experience or religious apprenticeship. However, over the years it came to be regarded as a professional profession which had to be prepared in a rather organized manner and with pedagogical skills and

continuous professional development (Glasby et al., 2011). This development has taken place on an international level and is manifested throughout Africa and in Ethiopia, and the Southern Nations, Nationalities, and Peoples Regional State (SNNPR) in particular.

The process of transforming the traditional religious training to institutionalized normal schools, universities, and contemporary alternative certification models represents a fundamental shift in the attitude and structure (Negash Tesema, 2025). Colonial systems came with structured training in Africa, which was after independence, localized and increased. Equally, the fact that Ethiopia shifted its education system that is based on religion to a more modern teacher training college system depicts this larger pattern of modernization and professionalization (Demelash, 2021). The growing understanding of the teaching profession as one demanding high preparation, cultural sensitivity, and lifelong learning highlights the global quest to have good education.

### **2.6.1. Trends in the Development of Teacher Preparation Programs in the Globe**

Regardless of the world, teacher education has been transformed into a professional system that is highly structured and accountable as compared to non-formal and apprenticeship learning. Traditionally, the teaching process was regarded as an inborn ability, and nowadays, it is seen as a complicated, acquired process that must be trained (Glasby et al., 2011).

In the ancient society, education was mainly conducted in religious or noble schools in Egypt, Mesopotamia, China and Greece. Formal teacher training was minimal and the priests and philosophers were the key educators (Glasby et al., 2011). Another key shift in medieval Europe was the emergence of universities (Bologna, 1088) and Paris (1150), which started to institutionalize teacher training by making it dependent on higher learning in the liberal arts (Goeing et al., 2020; Labaree, 2008).

The formation of the first Ecole Normale in France in 1685 by the Brothers of the Christian Schools gave the start of systematic training of those who would become pre-service teachers (Macnicol, 2022). Such institutions uniformed the methods of teaching and brought about pedagogical principles during teacher education. The same innovations were evident in

Germany with the teacher seminaries that were premiered by August Hermann Francke (Ruegg, 2006).

By the 19th century, the normal school model had become widespread as a movement of universal education and especially in the U.S. Professionalism in education Horace Mann in Lexington, Massachusetts (1839) pioneered by founding the first publicly funded normal school (Osgood, 2025). Like institutions were created in other European colonies like India, where colonial authorities opened normal schools located in Tamil Nadu (1716), Bombay (1802), and Kolkata (1852) (Rao, 2021). Through normal school movement, the world has been able to prepare teachers in a standardized manner.

In the early 20th century, normal schools slowly evolved into teacher colleges and later full-fledged universities, and the bachelor degree became the main qualification (Kimball, 2021). Teaching gained professionalism and was raised to the same level as medicine and law through the development of teaching institutions, including NYU Steinhardt (1890).

The further reforms after the World War II exacerbated accountability and quality assurance in teacher training. The U.S. and a number of European countries introduced five-year postgraduate credential systems to improve the mastery of content and the professionalism of teachers (Hanssen, 2022; Ivanova et al., 2021). Models such as the integrated five year bachelor's master degree of Finland, the dual bachelor-master training of Germany, and the MEEF system of France are examples of the greater level of academic intensity of the profession.

Together with these formal programs, there were alternative certification pathways that were developed in the 1980s to solve teacher shortages. Educational programs like Educator Preparation Institutes and Teach for America enabled people with disciplinary degrees to join the teaching field by enrolling them in expedited training programs (Darling-Hammond, 2017). Though the programs focused on the needs of the workforce, studies promote long-term professional growth as a way of ensuring quality and equity (Ingersoll, 2010).

Overall, the global teacher preparation has developed out of the religious apprenticeships to university-based studies with a focus on accountability, evidence, and continuous learning. The increased appreciation of teaching as a profession necessitates the implementation of high-quality, context-sensitive systems of teacher education across the globe.

### **2.6.2. The Development of Teacher Preparation Programs in Africa**

Colonial and postcolonial influences shaped teacher education in Africa as it developed informally and on an institutional basis within the community. Prior to the colonialism period, education was a social process that focused on oral traditions, skills, and moral values taught by revered elders instead of a teacher (Onwuatuegwu & Paul-Mgbeafulike, 2023). The teaching profession was not specific, and this curtailed standardization and scalability.

Teacher training started with Christian missionary work in the late 19th and early 20th centuries. The mission schools founded teacher training centers just to produce teachers for their own schools, focusing more on religious indoctrination and elementary literacy (Stuart and Tatto, 2000). These programs were insensitive to local relevance, with Eurocentric curricula, marginalization of indigenous languages and knowledge systems being the priorities of these programs.

The African countries focused on growing teacher education in the 1950s-1970s, after gaining independence, in order to achieve the national development objectives (UNESCO, 2022). Governments made colleges of teacher training, localized curricula, and focused on teaching in national languages. Nevertheless, this rapid growth was interrupted by a lack of finances, the insufficiency of facilities, and a lack of qualified teacher educators (Negash Tesema, 2025).

Economic crises of the 1980s and 1990s, require structural adjustment policies, weakened the education systems. The international agencies and NGOs attempt to restore capacity instade of in-service training and policy reforms. These decades, despite the hurdles, created resilience and local innovation towards teacher development in Africa.

The 21st century has seen reform that has emphasized professionalization, national standards, licensing, and accreditation systems. Although inequality in resources and implementation persists, the systems of teacher education on the continent are becoming more dynamic and responsive to the local conditions. The only problem now is how to connect these systems with the quality assurance and culturally aware pedagogies that would work in the diverse African societies.

### **2.6.3. Teacher preparation in Ethiopia**

The history of teacher education in Ethiopia is a combination of the ancient and modern approaches to reforms. For centuries, the Ethiopian Orthodox Church governed education, with its basis in the Aksumite civilization of the 4th century, and it focused on teaching theology and morality (Demelash, 2021). It was late in the 19th century, after Emperor Menelik II assumed power, that modern, secular education started, with the first modern schools being founded in 1900 (Alemayehu, 2012; Bahru Zewde, 2022).

Education in the early modern period was resisted by the church, and foreign teachers came from Egypt, Britain, and Canada was instrumental in the development of the curricula (Negash, 2006). Gradually, the government localized the training of the teachers and realized that sustainable modernization demanded Ethiopian teachers. The earliest primary teacher training school in Ethiopia was established in Addis Ababa, specifically Menelik II School, in 1944 (Negash, 2006).

In the middle of the 20th century, the government opened additional teacher training institutions: Addis Ababa TTI (1951), Harar TTI (1952), Debre Berhan TTI (1963), Asmara TTI (1964), and Jimma TTI (1968). Junior secondary teachers were also prepared in colleges, including Kotebe and Bahir Dar (1968, 1972) (Tesfaye, 2014). These schools were a sign of the increased awareness of teaching as a national priority.

The teacher education further grew during the Derg regime (1974-1991) with eight new training institutes, but quality declined because of the lack of resources, indoctrination of political ideologies, and decreased teacher morale (Gebretsadik et al., 2023). The new

government initiated massive reforms after 1991, which focused on decentralization, equity, and cultural relevance. Other initiatives, such as the Basic Education System Overhaul (BESO) and the Teacher Education System Overhaul (TESO), attempted to match teacher education with national development policy (Ahmed, et al., 2013; MoE, 2010).

By 2004 G.C., every Teacher Training Institute (TTI) had been transformed into a College of Teacher Education (CTE), which provides diploma courses based on the 10+3 and 10+1 models (Gebretsadik et al., 2023). Nowadays, Ethiopia has more than 38 CTEs that focus on reflective practice, teaching in the local language, and community involvement. Although this has improved, there are still issues with quality maintenance, proper supervision, and recruitment of highly qualified teacher educators.

The development of teacher education programs in Ethiopia has been a complex process, with traditional and new teaching approaches, and has both advantages and challenges. As presented in the literature, the transformation of the secular and institutionalized education system began with the efforts of Emperor Menelik II, who wanted to modernize it. However, later political authorities, especially the Derg, introduced ideologies that led to the collapse of the education system due to lack of resources, which further weakened the quality of education and the development of teacher education. The reforms implemented after 1991 aimed to decentralize education in accordance with national policies, which has led to the existing situation of teacher education and teacher preparation.

In particular, the lack of adequate educational resources in training institutions has exacerbated the weakness of teacher training programs. However, despite the long-term commitment of successive governments to bring about urgent solutions and improvements in the field of teacher education, the gap is still obvious. One of the reasons for this is that governments are using it to implement their own political ideologies and not use the teaching as a gear shifter to change the way of life of the society.

#### **2.6.4. Teacher preparation in the SNNPR at Primary School**

Ethiopia is a culturally and linguistically diverse country, and the Southern Nations, Nationalities, and Peoples region (SNNPR) with its territory of 112,000 km<sup>2</sup> and a population of more than 15 million people (Desta, 2017) is the manifestation of the diversity. Teacher preparation in this region has been shaped by the national tendencies, but it has taken care of the local peculiarities.

Awassa, Arbaminch, Bonga, Hosanna, and Dilla were key centers of alleviating the shortage of teachers (Degaga & Mekuria, 2023). Awassa TTI was a pioneer in the region, which was founded in the 1960s. Other institutions were opened up (as well as Arbaminch (1980), Bonga (1998; became CTE in 2004), Hosanna (1993), and Dilla (2005) and their capacity to train teachers increased. These CTEs have now been made consistent with the Ethiopian Education Sector Development Program and the 10+3 diploma route.

The SNNPR teacher training institutions have consequently made the transition of basic certificate programs to professional diploma programs, one of the steps towards the professionalization, equity, and sustainability of the education in the area (Gebretsadik et al., 2023).

#### **2.6.5. Policy Reforms and their impacts**

The 1994 Education and Training Policy (ETP) that saw 10+1 TTIs becoming CTEs, the 10+3 system coming in, and the modalities of training diversified deeply changed Ethiopian teacher education (Cohen, 2000). Gebretsadik et al. (2023) indicate that the policy redefined 10+1 TTIs as CTEs and introduced the 10+3 system, resulting in a greater variety of training modalities. The further reforms have been oriented on accreditation, lifelong learning and accountability based on the priorities of national development. These initiatives aim at producing competent, ethical and reflective teachers that have the potential to meet the diverse educational needs of Ethiopia and SNNPR.

#### **2.6.6. Curriculum Formulation and Cultural Responsiveness**

In Ethiopia, the contemporary curriculum of teacher training focuses on the inclusion principles, the ability to teach and be responsive to cultural and linguistic diversity

(Gebretsadik et al., 2023). The clustered (10+1) systems on which the lower-primary education is based support integrated teaching in the first four years and the upper-primary (10+3) systems support subject specialization in the last four years.

Since 2003, reforms have led to localized education, multicultural education, and enhanced professional ethics of teachers (Degaga & Mekuria, 2023). Since the communities in the SNNPR are multilingual and multicultural, the teacher education in these communities revolves around cultural awareness, community-based practicum, and multilingual education to bridge the language differences and ensure social integration. Mentoring, supervision as well as lifelong learning have also been enabled through enhanced collaboration between education bureaus, colleges and communities.

Despite these successes, there are still issues including lack of enough resources, lack of teacher motivation and subject matter capacity. To overcome these problems, it is expected to enhance the continuous professional development, incentives, and better working conditions to facilitate equity in education over the long term.

In conclusion, the preparation of teachers has been subjected to the world trends of professionalization, accountability and relevance to the situation. Most African countries more so Ethiopia have been transitioning to local, standards-based and culturally responsive systems with mission oriented and externally oriented systems. However, there are still ambiguities between the intended policy and actual execution or implementation, especially at the regional levels, such as in the SNNPR. These issues are a scarcity of resources, inequity in the quality of instruction, and lack of unified systems of professional supports.

Despite the current reforms in systemic access and organization, a gap in the research is found regarding how current teacher preparation programs in the SNNPR addresses the problem of quality, contextual complexity, and professional developmental requirements. To investigate this alignment, it is necessary to know whether the system of teacher education in Ethiopia is effective to address the educational and cultural requirements of the area.

## **2.7. Conceptual Framework**

Teacher education colleges are central to preparing professional educators for all levels of schooling. These institutions aim not only to equip pre-service teachers with pedagogical knowledge and practical skills, but also to foster lifelong competence, commitment, and the adaptability necessary to apply their learning across diverse educational and societal contexts (Demiralp & Kazu, 2017). However, effective implementation of teacher preparation programs does not occur in isolation. It depends on multiple interrelated conditions shaped by local contexts, institutional capacities, and external influences.

Developing sufficient capacity for implementation is therefore essential. Local providers such as teacher education colleges require both internal and external support mechanisms to ensure quality and sustainability in program delivery. Durlak and DuPre (2008) emphasize that implementation success depends on the interaction of variables across five categories: (1) characteristics of the innovation itself, (2) characteristics of the providers, (3) community factors, (4) the prevention delivery system (organizational capacity), and (5) the prevention support system (training and technical assistance). Under favorable conditions, these variables interact dynamically to promote quality implementation.

Building on this theoretical foundation, the present study focuses on assessing how teacher preparation programs are implemented within selected teacher education colleges. Specifically, it examines the perceptions of three key stakeholder groups diploma graduate teachers, college instructors, and college instructional leaders regarding factors that influence the successful implementation of these programs.

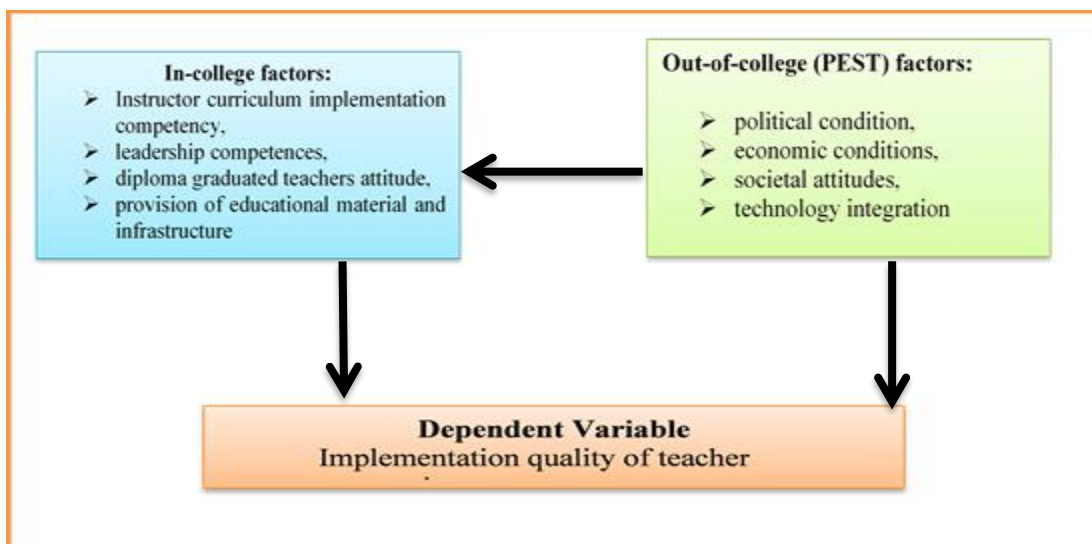
To organize these factors conceptually, the study distinguishes between in-college and out-of-college variables:

- In-college variables refer to internal factors within teacher education institutions. These include instructional leadership, instructor's competencies, prospected teachers

attitude, educational resource infrastructure adequacy, and the overall teaching-learning environment. Together, they represent the internal capacity that enables effective implementation of teacher preparation programs.

- Out-of-college variables pertain to the external environment and are examined through the PEST framework that is, political, economic, social, and technological factors. Political stability, availability of funding, inflation, unemployment, social perceptions of the teaching profession, digital infrastructure, and the influence of technology usages are among the external conditions that can either facilitate or constrain program implementation.

The conceptual foundation of this study positions implementation quality of teacher preparation programs as the dependent variable, while both in-college and out-of-college factors serve as independent variables influencing it. The interplay between these variables determines the overall quality of program delivery and achievement of curricular objectives. Stakeholders' perceptions particularly those of diploma graduates, instructors, and academic leaders serve as a diagnostic lens to assess how these programs function in practice and where gaps exist between curricular intentions and outcomes. In this way, the framework directly informs the research questions and analytical focus of the study.



**Figure 1:** Conceptual Framework of the Study

*Source: (Adapted from Durlak & DuPre, 2008; Demiralp & Kazu, 2017, and related literature)*

Independent Variables:

- In-college factors: instructor curriculum implementation competency, leadership competences, diploma graduated teachers attitude, provision of educational material and infrastructure
- Out-of-college variables pertain to the external environment and are examined through the PEST framework that is, political, economic, social, and technological factors.
- The integration of both In-college and Out-of-college (PEST) factors

Dependent variable:

- Implementation quality of TPP

In summary, this conceptual framework provides a guiding structure for understanding how both internal and external factors interact to influence the implementation quality of teacher preparation programs. The model proposes that successful implementation is a product of institutional capacity and responsiveness to the broader socio economic, political and technological environment. By examining these relationships through the perceptions of key educational stakeholders, the study seeks to identify areas where teacher education colleges can strengthen their strategies, address contextual challenges, and align more closely with national education policy objectives. Ultimately, the framework bridges gaps in previous research by providing an integrated perspective on the multi-dimensional nature of program implementation.

## **2.8. Chapter summary**

The chapter reviewed the key concepts, influencing factors, theoretical foundations, historical development, and conceptual framing of Teacher Preparation Programs (TPPs). It showed that TPPs are multidimensional systems integrating academic coursework, pedagogical training,

and clinical practice, with quality determined by coherence among inputs, processes, and outcomes. The chapter emphasized that implementation quality depends on both internal factors such as leadership, faculty capacity, resources, and candidate readiness, and external factors including policy, socio-economic conditions, community engagement, and technological infrastructure. It also highlighted major theoretical frameworks used to evaluate implementation, including QIF, CFIR, AIFs, and the Implementation Outcomes Framework, arguing for a combined approach to capture the complexity of TPP implementation. Historical and regional analyses further illustrated how teacher preparation has evolved globally, in Africa, in Ethiopia, and specifically within the SNNPR, showing progress alongside persistent contextual challenges. The chapter concluded by presenting a conceptual framework that positions implementation quality as the outcome influenced by interconnected in-college and out-of-college variables, providing the foundation for examining stakeholder perceptions and identifying areas for strengthening teacher preparation practice.

## CHAPTER THREE

### THE RESEARCH DESIGN AND METHODOLOGY

#### INTRODUCTION

This part discussed the methodology and procedures that were applied during the research. The specific chapter was devoted to the selection of research paradigm, research method, research design, sources of data, research site, population of the study, sampling procedures and sample size, data collection tools, data analysis procedures, procedures to check reliability and validity and finally the ethical considerations.

#### 3.1. Research Paradigm

Choosing a suitable research paradigm is one of the initial choices that a researcher has to make because it offers a philosophical underpinning on which a study is to be formulated, carried out, and read (Cameron, 2011). A research paradigm is defined as an organized beliefs and assumptions concerning reality, knowledge or values and methodological options that determine how researchers approach and study a phenomenon. A paradigm presents a coherent vision of the world rather than just describing a way of looking at the world, and it gives an understanding of what can be known, how that knowledge can be known, and what methods are suitable to produce that knowledge (Hughes, 2020).

According to Khatri, (2020), all paradigms are based on four main philosophical dimensions: Those are ontology (*the nature of reality*); Epistemology (*how knowledge is made and interaction of the researcher and the participants*); Axiology (*the role of values and ethics in the research process*); and Methodology (*what strategies and processes are utilized to research the problem*).

The historical paradigms like positivism and interpretivism have opposing assumptions. Although they are generally represented to be mutually exclusive, the current studies have recognized that the demarcations between the two are not fixed and mutually exclusive. The

dichotomy is not hard and fast but it is a difference in accentuated emphases upon objectivity, subjectivity, and the character of knowledge.

The paradigm chosen in this research is pragmatism that may try to integrate positivism and interpretivism (Khatri, 2020). Pragmatism, however, does not hold the position of having to decide between them and argues instead on the approaches that will be most helpful in answering the research questions. Pragmatism focuses on the pragmatic implications of the inquiry and therefore lets researchers make use of various types of evidence, both quantitative and qualitative, when a combination of them can best shed light on the issue under study. It perceives reality as plural and dynamic and it admits that knowledge can be built in the process of interaction with the world.

A pragmatic paradigm is especially suitable to apply in the framework of the research since the research issue demands the insight into both a comprehension of the quantifiable trends and a discussion of the views of the participants. Pragmatism gives the room to use those approaches that will help to meet these various needs without being bound by dogmatic philosophical lines. Its methodological pluralism helps to include various sources of data, which make it possible to comprehend the phenomenon better.

Axiologically, pragmatism recognizes that the values of the researcher are bound to affect the research process in terms of selection of research questions to the study conclusion (Creswell, 2009). The adherence to forming practically useful insights was used to select methods and the interpretation of results in this research. In place of the value-free inquiry, the pragmatic position acknowledges the use of values when making decisions on what is worth inquiry and how the conclusion would be applied to practice in the real world.

In conclusion, the application of a pragmatic paradigm gives a consistent philosophical base to this study since it is straightforwardly consistent with the nature and purpose of the research topic. First, pragmatism encourages the freedom of methodology, which means that the study can employ research methods that are likely to be most helpful to the research questions, rather than being bound to one methodological tradition. It is most applicable to the current research because to comprehend the evaluation of the implementation of the teacher

preparation program, both the trends and contextual details are relevant. Second, the pragmatic position facilitates the combination of quantitative and qualitative approaches that would allow the study to not only account for quantifiable findings, but also the views and experiences of the participants with regard to the in-college and out-of-college factors. Third, pragmatism recognizes the fact that knowledge is built and justified in terms of its practical consequences, and this is what this study seeks to do: produce findings that can be used to inform practice, policy, or institutional refinement in the area of teacher education programs. Lastly, the pragmatic paradigm is aware of the influence that the researcher's values have on the research process, and it is especially significant in the present study as the researcher is involved in the evaluation of the implementation of teacher preparation programs. Collectively, these philosophical statements render pragmatism suitable and more than justified in exploring the research problem, as is the case in this study.

### **3.2. Research Method of the Study**

A mixed-methods research design used in the study is based on the pragmatic philosophical position, which values the flexibility of the methodology and the need to employ the most suitable tools to solve the research problem (Kaushik & Walsh, 2019). The pragmatism philosophy supports the concept that researchers are free to choose the methods, techniques, and procedures available to them that are most useful to the objective of the investigation. Based on this view, the researcher used a mixed-method design to provide comprehensive, authoritative and practical results.

The mixed-methods approach has been chosen since the research problem demanded the breadth and depth of quantitative and qualitative research respectively. Quantitative element played a vital role in establishing patterns, quantifying relations between the most important variables, and gathering the answers of a greater number of respondents. On the contrary, the qualitative component was an opportunity to go deeper into the experiences, perceptions and contextual factors of the participants that could not be fully comprehended by means of numerical data. Collectively these methods provided a more comprehensive and detailed view of the phenomenon than any of the methods could give separately.

In this research, the quantitative data were gathered with the help of closed-ended questionnaires, and the findings were discussed statistically and provided in tables. These data were used to obtain quantifiable information on the variables being studied. To supplement this, the qualitative part entailed interviews and document analysis, which enabled the researcher to further describe and clarify the quantitative outcomes, pursue surprising results, and reinforce the research instruments design and validation. According to Creswell (2013), mixed-methods research is a study that is conducted with the aim of making sure that quantitative and qualitative data are deliberately combined to enrich the analysis of the findings.

The mixed-methods design was rather beneficial as it helped to collect extensive data as well as to explore the research in depth. It enabled the researcher to obtain data on a great number of respondents and also receive detailed rich responses which helped in elucidating and setting the statistical trends into perspective. This combination facilitated the description and interpretation of relationship between variables, familiarizing with the settings in which they took place and gave a more comprehensive explanation of the phenomenon of the research.

Altogether, the combination of qualitative and quantitative methods provided a strict and balanced methodology structure that met the requirements of the research and increased the validity and applicability of results.

### **3.3. Research Design of the Study**

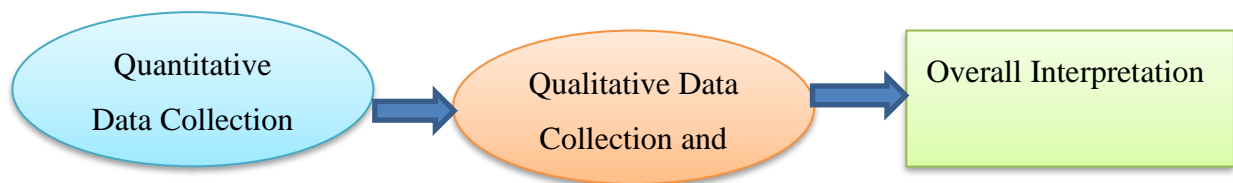
A research design is a plan which helps direct an investigator in gathering, analysis, and interpretation of data. Mixed-methods research designs are different. The choice of a mixed-method research design is based on the purpose of the research, the time frame within which the data is to be collected, etc. Based on the significance and time span of data gathering, the researcher adopted an explanatory sequential design (QUAN - qual) in this study.

According to Creswell (2013), the reasoning behind this choice of design was that the quantitative data and outputs gave a general view of the research issue, and additional analysis, namely, qualitative data gathering, would be required to narrow, expand or elaborate

the general view. It was seen as full of sequence and explanatory in the sense that the qualitative phase was preceded by the first quantitative phase and the outcome of the quantitative data was further explained by the qualitative data. This kind of design was most common in areas where a quantitative orientation was prominent; thus, the process started with quantitative research.

Moreover, this design also had the privilege of clearly distinguishing between quantitative and qualitative components which were not only useful to the reader but also to the researcher and the research design. The design also took the best of both sets of quantitative and qualitative data to derive quantitative but then refined or elaborated using a comprehensive qualitative exploration in the second phase.

The sequence of data collection and processing, along with the integration of quantitative and qualitative data to address the research questions, is illustrated in the accompanying figure



*Figure 2 sequential explanatory mixed research method design process*

### **3.4. Sources of Data**

For research analysis, data consisting of unorganized facts and numbers from multiple sources were gathered according to their specific needs. **It** was possible to obtain data from primary and secondary sources, with primary data coming from firsthand sources and secondary data from secondary sources. Through primary and secondary research, it was important to collect both numerical and non-numerical facts, and data analysis was closely related to capturing insights. Therefore, the purpose of the present study was to obtain data by using both primary and secondary sources.

#### **3.4.1. Primary Sources of the Data**

The primary data sources comprised crucial responses through which first-hand data were acquired (Ajayi, 2017). This study examined the implementation quality of teacher preparation programs in education colleges, and the primary data sources the researcher **used** for this investigation **included** diploma-graduate teachers, instructors, and college instructional leaders in the study areas. Therefore, participants were intentionally selected based on their direct involvement in, and experience with, the program. Diploma-graduate teachers were included because they had recently completed the program and could reflect on the relevance, coherence, and effectiveness of their preparation. Instructors were selected as they are directly responsible for curriculum delivery, assessment practices, and instructional methods, providing insight into how the program is implemented in practice. College instructional leaders were also included because of their roles in academic leadership, resource allocation, and policy implementation, which influence program quality at an institutional level. Consequently, these groups constituted appropriate and reliable primary data sources for generating comprehensive and contextually grounded evidence on the implementation quality of teacher preparation programs.

#### **3.4.2. Secondary Sources of the Data**

In addition to primary data sources, this study drew on secondary data sources. Relevant documents concerning various issues, such as education policy, educational development roadmap reports, teacher education curriculum, proclamations, regulations and various activity reports, were analyzed.

### **3.5. Study Site**

This study **considered** colleges of teacher education as study sites, which were located in the former South Nation, Nationalities and People Region colleges of teacher education. There were four education colleges in the region: Arbaminch, Bonga, Dilla, and Hossana Colleges of Teachers' Education. All colleges of education were selected for this study. The reason for choosing the study areas was the richness of the data contributed by the availability of different instructors, instructional leaders, and diploma-graduate teachers from their catchment areas. The researcher chose all colleges as study sites to define the population of college

instructors and instructional leaders. Similarly, to define the population of diploma graduate teachers, the researcher used multistage sampling techniques.

Multistage sampling referred to sampling plans in which the sampling was carried out in stages, using smaller and smaller sampling units at each stage (Berhane et al, 2007). It was the only choice in several practical situations, especially when a satisfactory sampling frame of ultimate stage units of sampling was not freely available and the cost of obtaining this information was large and time-consuming. For instance, in a survey for estimating diploma graduate teachers, zones were taken as primary stage units, woredas or city administrations within zones served as second-stage units, schools within woredas or city administrations served as third-stage units, and diploma graduate teachers within schools were considered the ultimate unit of sampling.

### **3.6. Population, Sample Size, and Sampling Technique**

#### **3.6.1. Population of the Study**

According to Awoke (2015), a population refers to the complete set of individuals or units that possess common observable characteristics from which a sample can be drawn. Consistent with this definition, the population for this study comprised three groups directly involved in the implementation of the primary school teacher preparation program in four Colleges of Teacher Education (CTEs): Arbaminch, Bonga, Dilla, and Hossana.

These four colleges were selected not for convenience, but because they represent the major teacher education institutions serving four distinct and socio-educationally diverse catchment zones in the Southern Nations, Nationalities, and Peoples' Region (SNNPR). Together, these CTEs account for the majority of diploma-level primary teacher preparation in the region, making them suitable for a regionally representative analysis of program implementation. Their catchment areas, Gedeo, Wolayita, Kaffa, and Kembata Zones, are officially mandated to collaborate with the respective colleges for teacher training, professional support, and short-term upgrading programs. This structural linkage provides a legitimate basis for their inclusion in the study.

The total population (N = 1,415) consisted of: Diploma-graduate primary school teachers (2018–2022) employed in the selected zones (N = 717). College instructors working in the four CTEs (N = 605). College instructional leaders in the same institutions (N = 93). These individuals were included because they have direct experience in teacher preparation, program execution, or the application of training in classroom settings, making them appropriate sources of data for evaluating the program’s implementation.

**Table 1** the target population includes diploma graduate teachers

population	Catchment area	Selected woredas & city	Sex	Diploma graduates year in E.C					Total
				2018	2019	2020	2021	2022	
Diploma graduate teachers	Gedeo Zone	Chorso woreda, & yirgacheffe city	M	21	16	11	19	12	79
			F	16	8	3	12	9	48
			T	37	24	14	31	21	127
	Wolayita Zone	Damot sore woreda & Gununu city	M	12	7	10	5	8	42
			F	13	6	14	4	15	52
			T	25	13	24	9	23	94
	Kaffa Zone	Gimbi woreda and Bonga city	M	16	26	21	17	9	99
			F	14	19	15	19	16	83
			T	30	45	36	36	25	172
	Kembata Zone	Kedida Gamella woreda & Durame city	M	28	36	32	33	37	166
			F	23	30	38	31	36	158
			T	51	66	70	64	73	324
Total				143	148	144	140	142	<b>717</b>

**Source:** Zonal education departments and woredas and city administration offices report

The production of 717 diploma graduate teachers in Gedeo, Wolayita, Kaffa and Kembata Zones in SNNPR, Ethiopia, between 2018 and 2022 was also unevenly distributed by zone, sex and year. Kembata Zone, consisting of Kedida Gamella woreda and Durame city, had the highest number of graduates (324), with a high of 73 in 2022, and almost equal representation between males and females (166 and 158). Kaffa Zone, which is comprised of Gimbi woreda and Bonga city, had 172, with a high of 45 in 2019, and a slightly higher number of males (99) than females (83). Gedeo Zone, which represents Chorso woreda and Yirgacheffe city, produced 127 graduates, of which there was a significant male preponderance (79 male, 48

female), and a high of 37 in 2018. Wolayita Zone, comprising Damot Sore woreda and Gununu city, had the least output of 94 graduates, with females slightly higher than males (52 and 42), and a high of 25 in 2018. In general, the total enrollment focused on the number of graduates did not vary greatly and was in the range of 140 to 148 yearly.

**Table 2:** *The target population includes college instructors and instructional leaders*

Population	Sex	Arbaminich	Bonga	Dilla	Hossana	Total
		N	N	N	N	N
College instructors	M	119	119	124	158	520
	F	20	22	23	20	85
	T	139	141	147	178	605
College instructional leaders'	M	22	27	18	14	81
	F	2	3	6	1	12
	T	24	30	24	15	93
Total		163	171	171	193	698

Source: *Each College human resource office*

The 698 college instructors and instructional leaders produced in the cities of Arbaminich, Bonga, Dilla, and Hossana in Ethiopia between 2018 and 2022 have a high contribution across the four cities and a large gender gap. Arbaminich offered 163 professionals (139 instructors (119 male, 20 female) and 24 instructional leaders (22 male, 2 female). Bonga was close behind with 171 total professionals (141 instructors, 22 females and 30 instructional leaders, 27 males and 3 females respectively). There were also 171 professionals recorded by Dilla, of which 147 were instructors (124 males, 23 females), and 24 instructional leaders (18 males, 6 females). Hossana led with the most output of 193 professionals with 178 instructors (158 males and 20 females) and 15 instructional leaders (14 males and 1 female). Altogether, there is a high level of male dominance in the total amount of 605 instructors and 93 instructional leaders with 520 male instructors against 85 females and 81 male instructional leaders against 12 females in total in all cities.

The targeted population in this study would be college instructors and college instructional leaders as well as those teachers whose academic years 2018-2022 are those who have graduated with regular primary school diploma in the sampled colleges of teacher education.

Since the respondents are supposed to be aware of the program, it is assumed that they have the advanced information regarding the teacher preparation program.

### **Inclusion Criteria**

The focus of this evaluation is diploma graduated teachers who had a diploma in one of the four centers for teacher education (CTE) between 2018 and 2022 and worked in a government primary school in one of the specified zones and taught in Grade 1–8. Also, the assessment involves full-time college instructors with a minimum of four years of experience in the respective CTEs. What is more, the criteria include instructional leaders, including department heads, dean's office staff, and instructors of directorates that have actively participated in designing or supervising educational programs. Such a choice highlights the role played by the qualified teachers and leaders in influencing the curriculum and quality of instruction offered in primary education in the discussed zones.

### **Exclusion Criteria**

This study identified participants who were excluded from teacher preparation programs. Teachers with less than one year of teaching experience, part-time teachers, and leaders who do not have an educational or academic role are excluded from this group. The purpose of this criterion is to include individuals with relevant knowledge and who are actively involved in the teacher preparation process, which is intended to improve the quality and relevance of the feedback or insights collected from these participants.

#### **3.6.2. Sample Size of the Study**

To determine an adequate sample for the quantitative component, Cochran's (1977) formula for categorical data was applied with a 95% confidence level and a 5% margin of error:

$$n_o = (1.96^2 \times 0.5 \times 0.5) / (0.05^2) = 384$$

Because the overall population ( $N = 1,415$ ) are less than 50,000, the finite population correction formula was applied:

$$n_i = n_o / [1 + (n_o - 1)/N]$$

$$n_i = 384 / [1 + (384 - 1)/1415]$$

$$n_i = 302$$

Therefore,  $n = 302$  was the ultimate quantitative sample size, which is statistically representative of the whole population. Through this sample size, unlike the original version, there was no arbitrary proportional percentage that overridden this sample size. Rather, proportional allocation was used whereby each of the subgroups (diploma graduated teachers, instructors, instructional leaders) contributed towards the entire sample corresponding to its size in the entire population.

### **Proportional Allocation Formula**

$$n_h = (N_h / N) \times n$$

#### **Where:**

$n_h$  = required sample for subgroup h

$N_h$  = total population in subgroup h

$N$  = total population (1,415)

$n$  = sample size (302)

#### **Applying this formula:**

Diploma graduated teachers:  $(717/1415) \times 302 = \mathbf{153}$

College instructors:  $(605/1415) \times 302 = \mathbf{129}$

Instructional leaders:  $(93/1415) \times 302 = \mathbf{20}$

### **3.6.3. Sampling Technique of the Study**

Sampling techniques are essential steps in statistics and research, which allow the selection of a small section of people or objects among a large population to make conclusions about the whole population at an effective and economical level (Kaushik & Walsh, 2019). Simple random sampling is frequently applied, so that all individuals have an equal probability of being selected, and provides a representative sample, although it has the disadvantages of perhaps lacking diversity, stratified sampling, whereby the population is categorized into homogenous groups (strata) and the sample is chosen at random, so that systematic sampling is used, the population is subdivided into clusters (as geographic location) and a sample is selected at random, which is effective when the population is scattered, but suffers periodicity bias (Awoke, 2015). The choice of the technique is made depending on several factors which include the size of the population, research objectives and limited resources in which it seeks to minimize sampling error and maximize the validity of the findings.

#### **Quantitative sampling**

The paper focuses on the quality implementation of a diploma level teacher training programs in the Southern Nations, Nationalities, and Peoples Region (SNNPR) of Ethiopia. The research mainly focus on the experiences and competencies of diploma graduate teachers, college instructors, and instructional leaders in various institutional settings to find their strengths, difficulties, and possibilities to improve the teacher preparation programs to contribute more to the educational achievements in Grades 1-8. A multi-stage sampling design was adopted to guarantee the methodological feasibility of representation of the region and at the same time make sure that the sample is representative of the entire region (Berhane et al, 2007). This was facilitated by the use of purposeful selection at the zonal stage and random sampling strategies at the other stages to reduce bias and enhance generalizability of the results. To make clear, the multistage sampling techniques pass six stages.

### ***Stage 1: Catchment Zones Selection***

The four areas, Gedeo, Wolayita, Kaffa and Kembata were specifically chosen due to the fact that they are officially associated with the four colleges that are part of the study. It is through this structural tie that diversity in institutional contexts in the region is covered and external validity of the findings is improved.

### ***Stage 2: Woredas and City Administrations Selection***

One woreda and one city administration were chosen in each zone through simple random selection. Such randomization reduces the chances of selection bias and even schools and teachers get an equal opportunity to be sampled.

### ***Stage 3: Primary Schools Selection***

Government primary schools at Grade 1-8 in the sampled woredas and city governments were incorporated. This level of school census did not require any further sampling at this point.

### ***Stage 4: Diploma Graduate Teachers Sampling***

Out of the lists of the diploma graduate teachers working in the selected schools ( $N = 717$ ), systematic random sampling was applied to select 153 teachers, the sampling interval:  $k = N/n = 717/153 = 5$ . To prevent periodicity bias, teacher lists were initially vetted in order to avoid them being ranked in terms of such aspects as year of graduation, performance, or placement. Some random initial point was then chosen.

### ***Stage 5: College Instructors Sampling***

Out of the 605 population of instructors, 129 instructors were sampled through stratified systematic sampling. Every college constituted a stratum and equally, proportional samples were selected. Lists were examined to make sure that no patterns were inherent.

### ***Stage 6: Instructional leader sampling***

Since the population size was (N = 93), an equal chance of sampling all the leaders was performed using simple random sampling (lottery method) so that no systematic bias could be induced.

### **Qualitative Sampling**

The qualitative component followed a sequential explanatory mixed-methods design, where qualitative sampling is driven by the quantitative results. Instead of relying on “*willing participants*” who risks self-selection bias this study used purposeful sampling based on quantitative findings. Participants were selected because their survey responses illuminated key issues, contradictions, or patterns requiring deeper exploration.

The criteria for qualitative selection included: These participants were those whose quantitative responses were extreme, singular or representative. The major subgroups of teachers, instructors, and leaders were used to get a wide sample. Besides, each of the four zones was given priority in representation to ensure that the findings are contextually diverse, making them rich and relevant. Following ; Morse ,(2000) Mulugeta et al. (2024)the qualitative sample size was set at 15–20 participants, which is adequate for thematic saturation in an explanatory design. A total of 20 individuals were then sampled in the second phase out of the participants admitted to have been part of the quantitative stage.

**Table 3:** Population, Sample size and sampling technique

<b>Catchment Area</b>	<b>Population Band</b>	<b>Population Size (N)</b>	<b>Sample Size (n, 50% Proportionality)</b>	<b>Sampling Technique</b>
<b>Gedeo Zone</b>				
Diploma Graduates (2018–2022)	Teachers	324	68	systematic random sampling
Instructors (Dilla)	College Instructors	147	32	stratified systematic sampling
Instructional Leaders (Dilla)	College Leaders	24	5	Lottery Method
<b>Wolayita Zone</b>				
Diploma Graduates (2018–2022)	Teachers	94	19	systematic random sampling
Instructors (Arbaminich)	College Instructors	139	30	stratified systematic sampling
Instructional Leaders (Arbaminich)	College Leaders	24	5	Lottery Method
<b>Kaffa Zone</b>				
Diploma Graduates (2018–2022)	Teachers	182	38	systematic random sampling
Instructors (Bonga)	College Instructors	141	30	stratified systematic sampling
Instructional Leaders (Bonga)	College Leaders	30	5	Lottery Method
<b>Kembata Zone</b>				
Diploma Graduates (2018–2022)	Teachers	127	28	systematic random sampling
Instructors (Hossana)	College Instructors	178	37	stratified systematic sampling
Instructional Leaders (Hossana)	College Leaders	15	5	Lottery Method
<b>Total</b>		<b>1415</b>	<b>302</b>	

### **3.7. Data Collection Instruments**

This research design was a mixed-methods sequential explanatory design used in two different stages, a quantitative stage, followed by a qualitative stage. The quantitative element was used to quantify various predictor variables in the literature on the evaluation of primary school teacher-preparation programs. These comprised in-college institutional variables: (a) the curriculum-implementation skills of instructors, (b) the attitudes of diploma-graduate teachers to the profession and the program, (c) the supply of educational facilities and equipment, (d) managerial and instructional-leadership competencies of college leaders, and out-of-college PEST variables: (e) political, (f) economic, (g) social, and (h) technological. The variables were all conceptualized as continuous constructs and measured on a multi-item Likert-scale.

Measurement items used by the researcher were modified in order to be clear and reproducible in the conceptualization and reproducibility. In particular, the competencies of curriculum implementation by instructors were modified in accordance with the Primary Teacher Education curriculum implementation competency scale created by the Ministry of Education (MoE, 2018; 2022) and with Tadesse and Kenea (2022) and Worku (2025), all of which were based on the Ethiopian Primary Teacher Education Curriculum Framework.

The attitude of diploma teachers toward the profession and program was also assessed by using items that were based on the teacher professional attitude scale (Alemu, 2024; Ayenalem et al., 2022; Tesfaye, 2014). The school learning environment inventory was used to determine indicators of educational materials and facility provision (Alemu, 2024). The items based on the educational leadership assessment were adapted and used to evaluate college leaders in terms of their competencies (Hallinger, 2018). Lastly, the contextual factors in education assessment tool were modified to be PEST factors. All constructs were completely operationalized and had many indicators to avoid the dangers of an oversimplified one-item measure.

A systematic review was done on all the adapted items to facilitate contextual compatibility. All items were translated into Amharic to avoid language problems for diploma graduated respondents.

The semi-structured interview guide and document analysis checklist comprised the qualitative aspect of the research. These tools were specifically crafted for the quantitative stage in a manner that they were capable of shedding light on the meaningful, non-meaningful, or surprising statistical findings. The study determined the qualitative instruments in direct response to the quantitative results, thus making sure that the explanations that were made were grounded, purposeful, and very much related to the trends that were being manifested by the numerical data.

The research problem, in itself, is mostly quantitative because it aims at quantifying certain constructs within a given population of diploma graduated teachers, instructors, and instructional leaders. This necessitated a sample survey of a set number of respondents to get credible statistical approximations and sufficient power to conduct inferential statistics. The quantitative nature of the issue thus explained the importance of the structured measurement instrument and extensive data gathering processes.

### **3.7.1. Instruments used to collect quantitative data**

As part of the mixed-methods research design, quantitative approaches were used to provide numerical data. In the quantitative phase, data collection was conducted through the use of a closed-ended survey questionnaire.

#### **Closed-ended Survey Questionnaires**

A closed-ended and structured questionnaire was used to collect information during the quantitative stage. This tool would provide descriptive and inferential data, helping the researcher to study the connection between variables, determine the degree of major constructs, and test the hypotheses related to the quality of teacher preparation programs. Standardized Likert-type items were used to ensure consistency in responses and made it easy to use powerful statistical methods (Kassa, 2012).

Face-to-face administration was used to gather data in order to reduce non-response, clarify instructions, and improve the reliability of the response. This method enabled the researcher to have the opportunity to answer questions raised by the participants in the process, minimize

misunderstanding of the items, and encourage the participants to complete their questionnaires. Largely the methodological decisions that were made during the quantitative phase ensured that the information gathered by the researcher was reliable, valid, and could be easily incorporated with qualitative results later.

The questionnaire was found to have a number of benefits such as uniform administration, anonymity, standardized response and effective collection of demographic and quantitative data. Participants were able to provide the degrees of agreement on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire was in three parts:

*Part I: Demographic Information:* Open-ended Questions included age, gender, level of education and name of the college.

*Part II: College-Related Variables:* curriculum-implementation competencies of the instructors; Breaking down into the subject-matter competencies and pedagogical competencies (planning, instruction, classroom management, and assessment). The materials were based on national curriculum frameworks and justified tools (MoE, 2018; 2022). Attitude of diploma teachers towards the program and their profession: received program relevance, professional identity, and commitment to teaching. Facilities and infrastructure provisions: determined educational materials availability, sufficiency, accessibility and instructional relevance. Essentials of a leadership persona in college: the managerial skill, instructional leadership, supportiveness, and strategic direction were covered.

*Part III: Factors (PEST) out of College:* Operationalization of the contextual PEST dimensions was based on several indicators on each domain: Political: political stability, support of governance, regulatory certainty. Economic: sufficiency of funding, economical limitations, resource distribution. Social: social support, social appreciation of teaching. Technological: technological access, integration of ICT and ICT infrastructure.

## **Instrument Availability**

To assess the external analysis of clarity, repeatability, and quality of items, the entire questionnaire is provided in *Appendix A, B and C*. This instrument enables other researchers, practitioners, and reviewers to test the conceptual fit between constructs and items. It allows confirmation of the validity of the adaptations of past scales. The full questionnaire also measures the cultural and contextual specifics of every measure. According to Herut, (2025); Morrison, (2022) researcher can audit it methodologically independently. This allows for replicable studies and facilitates future revisions or adaptations for other research in teacher education or educational contexts.

## **Validity and reliability of instrument**

The instrument validity is the degree to which the items are a good measure of the intended constructs (Mehari et al., 2025). As part of the pilot phase, the content and construct validity were accommodated by reviewing expertly senior faculty in curriculum and educational research. The items were assessed in terms of clarity, relevance and consistency with the conceptual framework of the study.

Further, to increase construct validity through the elimination of single-method bias, methodological triangulation (Bekere & Teketel, 2024; Mehari et al., 2025) was used when combining questionnaire data with interview narratives and document reviews.

Reliability deals with the similarity of measurement within administrations (Bekere & Teketel, 2024). The validity of the survey tool has been tested in two ways:

**Test-retest reliability:** The test was conducted twice in a period of two weeks among 15 randomly selected pilot study participants. To determine the stability of measurement, the two sets of scores were correlated.

**Internal consistency reliability:** SPSS was used to compute Cronbach Alpha coefficients of individual subscales. Internal consistency was viewed as acceptable when the reliability value of a  $\geq$  was 0.70 (Bekere & Teketel, 2024).

Face validity was achieved by administration of the questionnaire to subject matter experts in Hawassa Colleges of Education who scrutinized each item in the questionnaire by evaluating its clarity, relevance with the constructs, cultural appropriateness and completeness. Their ratings made the items capture the desired dimensions properly and were comprehensible to the intended population. According to their suggestions, a few of them were rephrased to become more precise and understandable to the linguistic community, the culturally ambiguous ones were narrowed down, and unnecessary and redundant items were eliminated. This professional review process enhanced the content reflection of the instrument and made it more appropriate to be used in teacher preparation program implementation evaluation.

### **Pilot Testing**

Before the main data collection, a pilot study was conducted to test the validity, reliability, and practicality of the research instruments. Pilot testing allowed refinement of ambiguous items and ensured clarity in wording and structure (Tewachew et al., 2024).

A pilot test was conducted with 30 participants (11 instructors, and 4 instructional leaders) from Hawassa College of Education and (15 recent diploma graduates teachers) who teach Aleta Wondo primary schools. That was not included in the main study. The purpose of the pilot was to examine the reliability, clarity, and cultural appropriateness of the questionnaire items prior to full administration.

Participants completed the full questionnaire and provided feedback on clarity and length. Based on the pilot results, redundant or confusing items were removed, and the sequence of questions was reorganized for better logical flow.

Reliability analysis using Cronbach's alpha demonstrated strong internal consistency across all major scales. The instructor-competence scale yielded an alpha of .89, the teacher-attitude scale .86; the facilities scale .82, the leadership-competency scale .88, and the PEST scale .84, and the dependent variable scale 0.79 All coefficients exceeded the recommended minimum threshold of .70, indicating that the instrument possessed satisfactory internal reliability.

Statistical justification for considering Cronbach's alpha values of 0.70 and above as indicative of strong internal consistency includes the following points: Methodologists usually recommend a minimum coefficient between 0.65 and 0.80, with values under 0.50 deemed unacceptable for unidimensional scales. A commonly acknowledged benchmark is 0.70, indicating sufficient reliability, although values near this threshold are minimally acceptable. In educational research, acceptable thresholds have varied but have recently been lowered to 0.60 or 0.70, facilitating the progression to statistical tests. A score between 0.70 and 0.79 is classified as "acceptable" and widely used in social sciences for group-level research.

**Table 4:** *Cronbach's Alpha Values for Pilot Scales*

Scale	Number of Items	Cronbach's Alpha ( $\alpha$ )
Instructor Competence	12	0.89
Teacher Attitude	8	0.86
Facilities and Infrastructure	7	0.82
Leadership Competency	13	0.88
PEST Factors	15	0.84
Dependent variables	6	0.79

Based on the findings from the pilot test, several revisions were made to enhance the clarity and cultural fit of the questionnaire. Three items were removed because they were identified as unclear or double-barreled, which could compromise response accuracy. Additionally, five items were revised to improve cultural clarity and ensure that wording was familiar and interpretable for respondents. Negatively worded items were rephrased into positive form to maintain response consistency and reduce cognitive burden on participants. These revisions strengthened the overall quality and usability of the instrument for the main study.

### **3.7.2. Instruments used to collect qualitative data**

The qualitative stage was planned to be a follow-up of the quantitative analysis and had the purpose of explaining, elaborating, and contextualizing particular numerical results. To achieve this, two instruments were used a semi structured interview protocol and document

analysis guide. These instruments helped the researcher to examine the experiences and view of the participants and the practices within the institutions in such a manner that, they complemented and further elaborated upon the statistical findings.

### **Semi Structured Interview Protocol Development**

The semi structured interview protocol was developed based on the quantitative results. Interview questions were formulated in such a way that they would elicit statistically significant findings, illuminate non-significant relationships and investigate the patterns of groups of responses and outliers. The protocol was planned into four parts that represented the significant quantitative constructs. The sections had open ended questions that would help in drawing detailed explanations associated with instructor's curriculum practices, professional attitudes, leadership behaviors, facilities, as well as contextual influences. The protocol contained an introductory script with the objectives of the study, rights of the participants, and assurance of confidentiality, as well as the audio recording consent. Three instructor pilot tests led to slight modifications in making it more understandable and logical. The entire protocol is shown in *Appendix D*.

### **Document Analysis**

A structured checklist based on Bowen (2009) document analysis framework was analyzed on the documentary data. There were categories in the checklist that included resource allocation patterns, policy compliance, instructional supervision practices, quality assurance reports, student achievement records, institutional strategic plans and relevant legal or regulatory documents. The thematic analysis approach was used in coding of documents. They were maintained with fixed set of categories to remain in line with the conceptual framework of the study and where appropriate, emergent codes were taken. This has made the document analysis process deeper, rigorous, and interpretative. The entire protocol is shown in *Appendix E*.

### **3.8. Procedures and Phases of Data Collection**

Data gathering was done in two phases in accordance with the suggestions of Creswell and Creswell (2018) on sequential explanatory designs.

#### **3.8.1. Quantitative Phase I**

This phase involved developing the quantitative research questions and determining the strategy of sampling; Questionnaire development and validation; Giving the survey and gathering closed-ended information; Performing descriptive statistics, correlations, multiple regression and ANOVA analysis; Determinist quantitative outcomes to be given more detailed treatment; Refining qualitative questions and participants based on these results (Toyon, 2021).

#### **3.8.2. Qualitative Phase II**

The qualitative stage provided an opportunity to learn more about the quantitative findings. Steps included: Creation of qualitative questions associated with quantitative results; the choice of a purposive sample amongst quantitative respondents; Gathering semi-structured information by interviewing and reviewing documents; Performing a thematic coding (open, axial, and selective coding); Integrating both qualitative and quantitative outcomes and investigating convergence, divergence, or expansion (Creswell & Creswell, 2018).

### **3.9. Data Analysis**

The analysis of the data was conducted on three levels, i.e. within-quantitative, within-qualitative and across-method integration. The research has used a sequential explanatory mixed-methods design (Creswell & Creswell, 2018), in which quantitative data were utilized and analyzed initially to identify the statistical patterns and associations, and then the quantitative data will be used to explain and elaborate on the results. The combination of both strands allowed the research to have a multi-dimensional interpretation and a triangulation strengthened the credibility of the research (Creswell, 2009).

### **3.9.1. Quantitative data analysis**

There were quantitative analyses of descriptive statistics, ANOVA analysis, multiple regression, and effect-size calculations. The analyses provided responses to the quantitative research questions and were used to develop qualitative sampling and protocols.

The quantitative stage aimed at evaluating the scale and the structural patterns of the relationships between factors of Teacher Preparation Programs (TPPs). Descriptive and preliminary data analysis was performed with the help of SPSS version 26, Structural Equation Modeling (SEM) was conducted with the help of Smart PLS 3.1.

Principles Pre-screening of data this conceptualized potential problems. Missing values were checked through the descriptive statistics; the cases with more than 10% of missing values were removed, whereas unimportant missingness (below 5% missingness) was filled in using expectation-maximization (EM). Boxplots, z-scores ( $>+3.29$ ), Mahalanobis distance ( $p < .001$ ), and the standardized residuals were used to identify outliers and remove them in cases that were justified. Skewness-kurtosis ratios ( $+2$  skewness and  $+7$  kurtosis) and graphical observations (De Bastiani, 2022) were used to test normality, whereas Levene test and linear association scatter plots tested homoscedasticity. The independence of the predictors was checked with variance inflation factors ( $VIF < 5$ ) and tolerance ( $>0.2$ ) (Girma Dibiku, 2023).

After the screening, descriptive statistics such as frequencies, means, and standard deviations were used to summarize the demographics and the responses of the participants on the implementation of TPP. In order to perform an inferential analysis, multiple regression was used to test predictive correlations of independent variables (instructors competency, diploma graduate teachers attitudes, instructional leadership competences, provision of materials and PEST) and the dependent variable (implementation quality), with  $p = 0.05$ . The one-way ANOVA was used to test group perception differences between education colleges, college instructors, instructional leaders, and diploma graduates.

The Likert-type items were evaluated according to the central tendencies (means) and the relative group differences and focused on within-sample comparisons and effect sizes rather than on arbitrary categories (Creswel, 2009).

The use of SEM is determined by the intricate nature of the study framework, which entails a combination of interrelated latent constructs with competence in the faculty, instructor motivation, institutional leadership, resources provision, and implementation quality. In contrast to simple regressions, SEM can test direct and indirect effects, it can quantify the measurement error to enhance construct validity and it can also test model fit indices (Example dULS, dG NFI, and RMSEA) to determine the degree to which the paths are consistent with observed data. This fits in the theoretical model, where interdependent impacts on the quality of implementation are anticipated.

The measurement model was Confirmatory Factor Analysis (CFA), which confirmed the indicator loading on the latent constructs, which determined reliability (Cronbachs  $\geq 0.70$ ) and convergent validation (AVE  $\geq 0.50$ ) (Peimanpak et al., 2025). Direction and strength were then tested with available hypotheses in the structural model. The fit criteria were to have CFI  $\geq 0.90$  (good);  $\geq 0.70$  (acceptable for complex models) and RMSEA  $\leq 0.08$  (Hair et al., 2021). The standardized regression weights at  $p < 0.05$  were used to evaluate path coefficients.

### **3.9.2. Qualitative data analysis**

Qualitative information was obtained through semi-structured interview with the college instructors, instructional leaders and diploma graduates and supported by institutional records such as performance reports, professional standards, and policy guidelines (Braun and Clarke, 2006).

Thematic analysis (Braun and Clarke, 2006) was used because of its systematic way of finding patterns and explaining quantitative researches. It consisted of six steps: familiarization, through repeated readings of transcripts; first inductive coding of meaningful segments, guided by quantitative results; clustering codes into themes; reviewing themes to assess their integrity, and giving names, to determine their extent and connections; and reporting with

representative quotations. The coding of interview transcripts and documents was done thematically based on open, axial, and selective coding. Cross-checking the codes with an external reviewer were a way of improving reliability (Feyisa & Dinsa, 2023).

Inter-coder reliability was attained through peer review to achieve at least 80% consensus on themes in order to achieve rigor. Member checking was whereby some of the participants were provided with summaries that they were required to validate.

### **3.9.3. Integration of Results**

At the interpretation level, integration took place. Qualitative results were employed to elaborate or interpret quantitative findings, resolve discrepancies, as well as shed light on unforeseen trends. The triangulation increased the validity, credibility and general completeness of the conclusions of the study. As expected in the sequential explanatory design, integration took place in the process of interpretation to create holistic meta-inferences (Creswell and Plano Clark, 2018). This was carried out in three phases: the initial phase involved the selection of quantitative findings that required further elaboration including relationship surprises; the second phase involved linking the quantitative sample with qualitative participants purposely sampled to provide a context; and finally, association of strands to bring out convergence, divergence and complement. The resulting synthesis provided the overall picture of what contributes to the quality of TPP implementation.

## **3.10. Ethical Considerations**

This research was conducted in line with the set ethical guidelines on how educational research is conducted when applied to human subjects. In order to safeguard the rights of the participants, uphold transparency, and the integrity of the research, ethical compliance was maintained at institutional, procedural, and interpersonal levels.

### **3.10.1. Institutional Approval**

Before the collection of data ethical clearance was received at the Research and Ethics Committee of Dilla University. After this permission, formal permission documents were sent

out to the sampled colleges and the Woreda Education Office to allow access to both participants and locations of research. Such permissions gave the study administrative and ethical validity to continue with the study.

### **3.10.2. Informed Consent**

The nature and aim of the study were completely explained to all the participants prior to their participation. The researcher gave out an information sheet which explains the purpose of the research, the methods, or procedures, the possible risks and benefits and the period the study would require. The participants received the written informed consent form in which the idea of the voluntary participation was stressed. They were promised that they could pull out at any given stage without any harm. In case of participants who had literacy constraints, the researcher used verbal consent as the consent was read aloud in the presence of a witness.

### **3.10.3. Confidentiality and Anonymity**

The research was conducted in a confidential manner. Name and job titles as well as position names in certain institutions were not included in transcripts and reports. In order to maintain the richness of the context and at the same time not violate privacy, the institutions were not mentioned directly, but instead addressed as coded identifiers (forexample, College A, College B). This was done to keep a transparency of analytic nature and still avoid the identification of specific participants. Any data used in the findings did not include any information that will indirectly reveal participants or institutions.

### **3.10.4. Data Security and Handling**

There were rigorous security measures in data management. Consent forms and field notes that were in hard copy were kept in locked cabinets that were only accessible to the researcher. Only secure storage devices were used in the backup of data without sharing it to the cloud. As per university rules, the information be stored up to a period of years after final defense after which the information be deleted or shredded to nothingness giving full assurance that the data has been destroyed.

### **3.10.5. Reducing Researcher Bias and Power Imbalance**

The researcher was also aware of potential power imbalance especially because the researcher was a professional educator in the same educational system. To eliminate unnecessary influence, the participation was not compulsory and clear statements were made that the answers would not affect the employment or academic status of the participants. There was encouragement of an environment of openness and mutual respect during the interviews and discussions to allow honesty in the expression of opinions. Reflexive self-monitoring was also used during the collection and analysis of data in order to maintain and protect against researcher bias.

### **3.10.6. Reporting Ethical Integrity**

The values of honesty, accuracy and respect towards the participants informed reporting of the findings. The verbatim reproduction of quotations was made to retain the original meaning but the identity was anonymised. No data were created, distorted, or manipulated to provide desired results. This last report highlights objectivity, precision and responsible reporting of results to be used in academics and professional purposes. Therefore, the current study concerns all the mentioned issues in the process of ethical consideration section.

## **3.11. Chapter summary**

The research design was a sequential explanatory, mixed research design. The participants were former students who graduated the college in 2018-2022, college teaching staff, and college instructional leaders. The research was done in two phases. During the first stage, questionnaires were used, and semi-structured interviews and document analysis were used during the second stage to measure teacher preparation program implementation. The following chapter was given the findings of the early levels of the study. The chapter focuses on analysis of the quantitative and qualitative results of the questionnaire.

## CHAPTER FOUR

### PRESENTATION, ANALYSIS AND INTERPRETATION OF THE STUDY

#### INTRODUCTION

This chapter contributes about the presentation, analysis, interpretation, and discussion of the findings as per the research objectives. The findings are structured in a way that provides a holistic view of the quality implementation of the Teacher Preparation Program (TPP) in a select number of colleges.

The initial stage of the research involved a quantitative study to determine how participants thought about the implementation of programs and the factors that affected it. They are presented with eight key result areas, which was guarantee clarity and order of progression: (1) socio-demographic characteristics of participants; (2) the structure of the factor, its reliability, and validity of the measurement tool; (3) the differences in perceptions of instructors, leaders and diploma graduates towards the quality of the implementation; (4) the differences in perceptions of regarding in colleges factors; (5) the differences in perceptions of external political, economic, social and technological (PEST) factors; (6) the mediating role of in-college capacities between PEST and implementation quality of TPP.

The framework positions external contextual forces (PEST) as distal determinants that influence the implementation quality of teacher preparation programs primarily through their effects on in-college conditions. In-college factors such as leadership, resource allocation, instructor's competencies diploma graduated teachers function as mediating mechanisms translating external pressures and opportunities into day-to-day implementation practices. A direct pathway from PEST factors to implementation quality is also plausible, indicating partial mediation where some external forces shape implementation irrespective of internal processes.

The second stage of the research was a qualitative study, which aimed at deepening and explaining the quantitative results. This step incorporated a sequential mixed-method design (Creswell, 2009), which entailed semi-structured interviews and analyses of documents to bring additional understanding of the statistical associations that were found in phase one. To understand their experiences and understanding of TPP implementation, eight College leaders, A, B, D, and H, four Diploma graduated teachers, and eight college instructors, chosen among the respondents of the survey, were interviewed to see their views and experience in the implementation of TPP. Qualitative findings come out at the end of the quantitative findings and are employed to elaborate, describe, and interpret the statistical trends of phase one. The two phases are combined to help us have a comprehensive picture of the factors that affect the quality of the teacher preparation program implementation.

## **4.1. Quantitative Phase**

### **4.1.1. Descriptions of Socio-demographic of participants**

Socio-demographic of participants refers to the social and demographic characteristics of individuals taking part in a study, including details like their group of participants, age, sex, department and colleges which could use to understand the background and context of the study population.

**Table 5:** Summary of Participants by Demographic Characteristics, College, and Department (N = 294)

Variable	Category	Frequency (n)	Percentage (%)
Group of Participants	Leaders	24	8.2
	Instructors	165	56.1
	Diploma graduates	105	35.7
	Total	294	100.0
Sex	Male	204	69.4
	Female	90	30.6
	Total	294	100.0
Age Group (years)	Under 25	50	17.0
	25 – 34	69	23.5
	35 – 45	134	45.6
	Over 45	41	13.9
	Total	294	100.0
College	College A	56	19.0
	College B	72	24.5
	College D	94	32.0
	College H	72	24.5
	Total	294	100.0
Department	Languages	75	25.5
	Social Sciences	87	29.6
	Natural Sciences	60	20.4
	HPE / Arts / Music	59	20.1
	Other	13	4.4
	Total	294	100.0

The demographic findings have some significant implications for the analysis of the research findings and the subsequent intervention. The fact that teachers (56.1%) are overrepresented is illustrative of the fact that the study is a close description of the attitudes of the professionals who are directly involved in the process of teaching, which also has a very obvious implication on our understanding of the implementation on the grassroots. Nevertheless, the proportion of the leaders agreeing with these concepts is lower (8.1), which may indicate that a holistic view of leadership can be examined through the lives of persons in multiple professional contexts, but it may not be the all-encompassing definition based on the teaching side. The percentage of diploma graduates 35.7% is a good starting point at which one can be capable of gaining an insight into their attitudes and experiences.

The fact that the distribution of males and females is 69.4 percent (male) and 30.6 percent (female) means that the findings will be skewed to the life and perspectives of men, which is somewhat true to the actual population of the study area. This gap should be factored in because of the sex-related issues in the provision of the programs or perceptions.

The population of people between 35 and 45 years of age is 45.6 percent of the workforce, hence showing that they are stable in their practice. Such stability may not allow innovation, as younger members (under 25, 17.0%) have different issues and can offer fresh ideas than older workers (over 45, 13.9) who have experience in the institution.

Generally, the demographic composition of the sample can be conveniently accessed, but it has numerous biases, especially, the over-representation of instructors and males. However, the imbalance between the groups, genders, and ages is probably a sign that there are areas in which the findings can contribute more nuanced information (such as the views of the instructors and the experience of middle-aged professionals). It also shows at what point a more selective and profound analysis would be needed to reach a comprehensive picture (such as leadership problems, experience of younger and older professionals, and gender-related processes).

The pattern of distribution of participants in the colleges is somewhat interesting. College D had the greatest number of participants (n=94, 32%). It implies that college D includes more people and a representative population. Altogether, College A has the lowest number of participants and representation, with only 56 people (19%), which may reflect fewer programmes or fewer interactions. Secondly, the participants have been distributed across the academic departments, indicating that the Social Science department is the well-represented of the departments, with 87 participants (around 30 percent of the sample). This may mean that there is a good teacher preparation program in the Social Science department and/or the department receives more aspiring teachers.

The Languages department is the next closest with 75 participants (approximately 26%). After that, there were 60 respondents in Natural Science, 59 in HPE/Art /Music, and 13 in other departments (Pedagogy, Special Needs Education, and Educational Leadership and

Management). This biased representation may be a sign of the size or staffing patterns of these departments across the colleges and not a sampling bias, since nearly fifty percent of the total population was sampled in the research.

The percentage representation of this type means that the process of sampling was objective and representative of the institutional reality. Statistically, this representative stratification helps to assume that the data are normally distributed. Since the sample is a perfect reflection of the natural variance of the population in the departments, it meets the normality case, which justifies the application of the robust parametric statistical tests to conduct further analysis. Some of the small sample sizes of the departments can, however, be attributed to the difference in the scope or the emphasis of the teacher preparation activities in different disciplines. Such discrepancies are notable to consider since unequal representation among different departments could make a difference in the implementation of teacher preparation programs. Moreover, the ability of teachers, the attitude of graduate-teachers to their activity, the support of leadership, and the availability of educational resources are likely to affect the level of contributions of departments to the total quality of the implementation. By means of professional development, involvement of leaders, or allocation of resources, the teacher education colleges will be able to find out what aspects can be improved in order to increase the effectiveness of the teacher preparation program implementation through these factors.

#### **4.1.2. Factor Structure, Reliability, and Validity of the Instrument**

##### **Model Fit Results and Interpretation**

Structural equation modeling (SEM) is a highly flexible statistical technique that combines measurement models with structural path models and allows researchers to validate instruments while examining relationships concurrently among observable variables and their associated latent constructs (Kline, 2023). Similarly, Thakkar (2020) SEM differentiates itself from classic regression because SEM can account for measurement error and allows testing of more complex theoretical models. For instrument validation, SEM is particularly powerful to demonstrate confirmatory factor analysis (CFA), where researchers are able to test if the data fit the hypothesized factor structure. Therefore, SEM is considered the gold standard for

demonstrating construct validity, as well as demonstrating that an instrument that is adapted to a new cultural context, remains theoretically and empirically valid.

The usefulness of SEM is strongly influenced by sample size. According to RVSPK, et al. (2020), larger samples, and there are common rules of thumb present (forexample, 200 sample sizes are required for SEM modeling), maximize the ability of SEM to provide good parameter estimates and reliable goodness of fit indices (Hair et al., 2021; Kline, 2023). If SEM has the potential for 200 or more cases, SEM has a greater potential for detecting indirect relationships between latent constructs, desiring less instable estimates, and reaches a greater level of generalizable conclusions. For these reasons, SEM is considered an appropriate and rigorous methodology for validating instruments in large-scale studies, where both reliability and validity must be demonstrated with precision (Boateng et al., 2018; Moshagen & Erdfelder, 2016).

**Table 6:** model fit indicators

<b>Fit Index</b>	<b>Saturated Model</b>	<b>Estimated Model</b>	<b>Recommended Threshold</b>	<b>Interpretation</b>
SRMR	0.073	0.073	< 0.08 (Hu & Bentler, 1999)	Good fit – residuals between observed and predicted correlations are small
d_ULS	4.584	4.584	(used for internal consistency check)	Acceptable – similar values indicate stable estimation
d_G	1.437	1.437	(lower = better)	Satisfactory – low discrepancy between model and data
NFI	0.718	0.718	≥ 0.90 (good); ≥ 0.70 (acceptable for complex models)	Marginal fit – indicates the model explains a moderate portion of covariance

Model analysis has revealed that the Standardized root mean square Residual (SRMR) value of 0.073 is lower than the cut off level of 0.08 and thus indicates that the differences in the residual between the observed and predicted correlation matrices are suitably low (Hu & Bentler, 1999). This indicates that the structural relationships proposed between the latent

constructs of faculty competence, instructor motivation, leadership support and resource adequacy were relatively acceptable to the data.

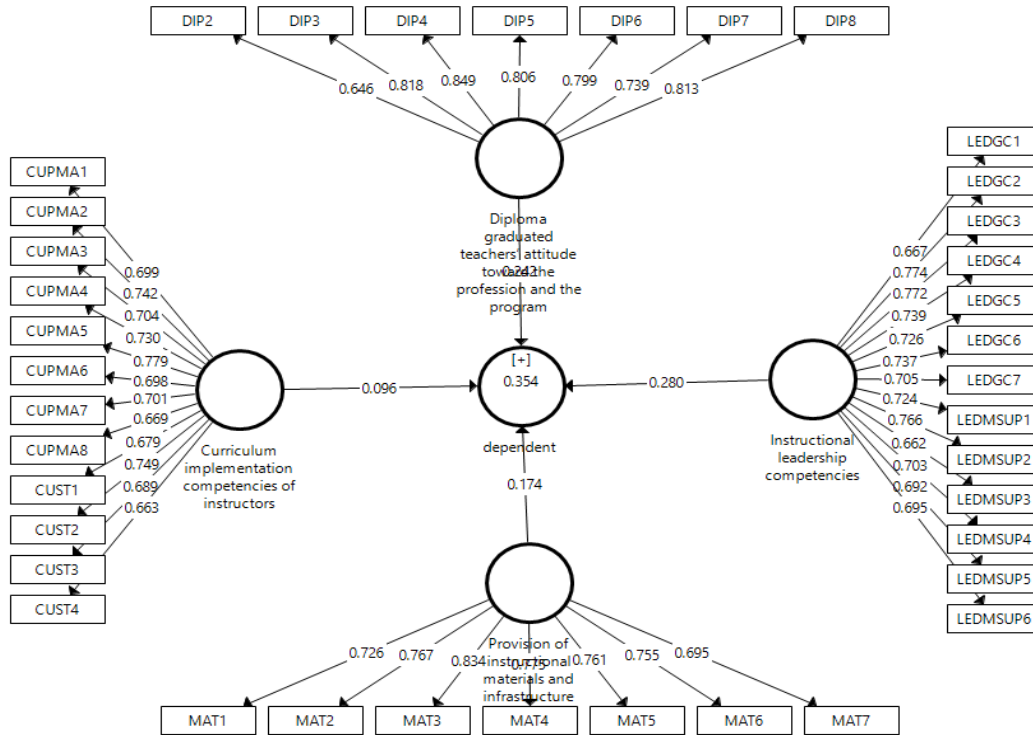
The value of both the dULS (4.584) and dG (1.437) are both similar in both the saturated and estimated model, which means that the model is internally consistent and there are no large estimation errors. In this instance, SRMR and NFI are practical fit indices which offer a better guide.

The Normed Fit Index (NFI = 0.718) is slightly under the traditional mark  $\geq 0.90$  (strong fit), yet it is still within the range of minimum values that typically can be observed in social science SEM research involving complex specifications and moderate samples (Hair et al., 2021). This implies that an estimated 72 percent of covariance in the data is explained by the proposed structural model, which therefore indicates that the proposed hypothesized relationships between the constructs offer a fairly good approximation of the actual patterns of data.

In general, the fit statistics show that the estimated model has a reasonable fit to the data. These findings suggest that the theoretical framework that was generated in the current research with the institutional and personal (for example, instructional leadership and provision of resources, faculty competence, teacher attitude) factors associated with the overall quality of TPP implementation is, to a large extent, substantiated with the empirical evidence.

### **Factor Structure of the Instrument for in college and out of college variables**

The below in college variables model comprises four latent constructs measured by multiple observed indicators: A total of 39 items (including 12 items of curriculum implementation competencies of instructors (CUPMA1–CUPMA8, CUST1–CUST4), 7 items of the diploma-graduated teachers' attitude toward the profession and the program (DIP2–DIP8), 13 items of the instructional leadership competencies (LEDGC1–LEDGC7, LEDMSUP1–LEDMSUP6), and 7 items of the provision of instructional materials and infrastructure (MAT1–MAT7).



**Figure 3:** factor loadings, which indicate the strength of the relationship between observed indicators and their respective constructs

The factor loadings, in figure 3 indicate the strength of the relationship between observed indicators and their respective constructs, mostly exceed the acceptable threshold of 0.60, demonstrating good measurement reliability (Awang et al., 2015; Henseler et al., 2015).

In addition, Contextual Flexibility: 0.60 is usually taken as the acceptable ratio of factor loading in exploratory research conditions particularly when presenting new or emerging construct in which indicators are not fully validated. This offers a wider investigation of relationships and then develops the constructs further.

Measurement Reliability: It has been established that even when the factor loading is above 0.60, measurement reliability may still be good with the background or substantive indication of the constructs. When indicators are high based on the theory or even the context, we can justify a slightly lower threshold, and this would not undermine the validity of the measures.

Diversity of Indicators: The model could involve various indicators, and not all of these indicators would have the same loadings because some of them would be naturally uneven contributors to the constructs. The fact that real-life data is complex and that different indicators might have subtle roles should be allowed under the lower threshold.

Acceptable Standards Precedent: 0.60 has been used in a number of studies in both social sciences and education as a preliminary cutoff especially in cases where the focus is on creating new models. This method concurs with the fact that even strong relationship may still arise with signs less than the more rigid 0.70 in cases where research is adopting exploratory stages.

Specifically, curriculum implementation competencies show loadings ranging from 0.663 to 0.779, suggesting strong indicators; teachers' attitudes toward the profession and program load strongly between 0.736 and 0.850; instructional leadership competencies range from 0.662 to 0.774, reflecting good reliability; and provision of materials and infrastructure demonstrates strong loadings between 0.695 and 0.834. Overall, the measurement model is valid, with all constructs well represented by their indicators (Bajjou & Chafi, 2025).

**Table 7:** Factor Structure Summary of the Instrument

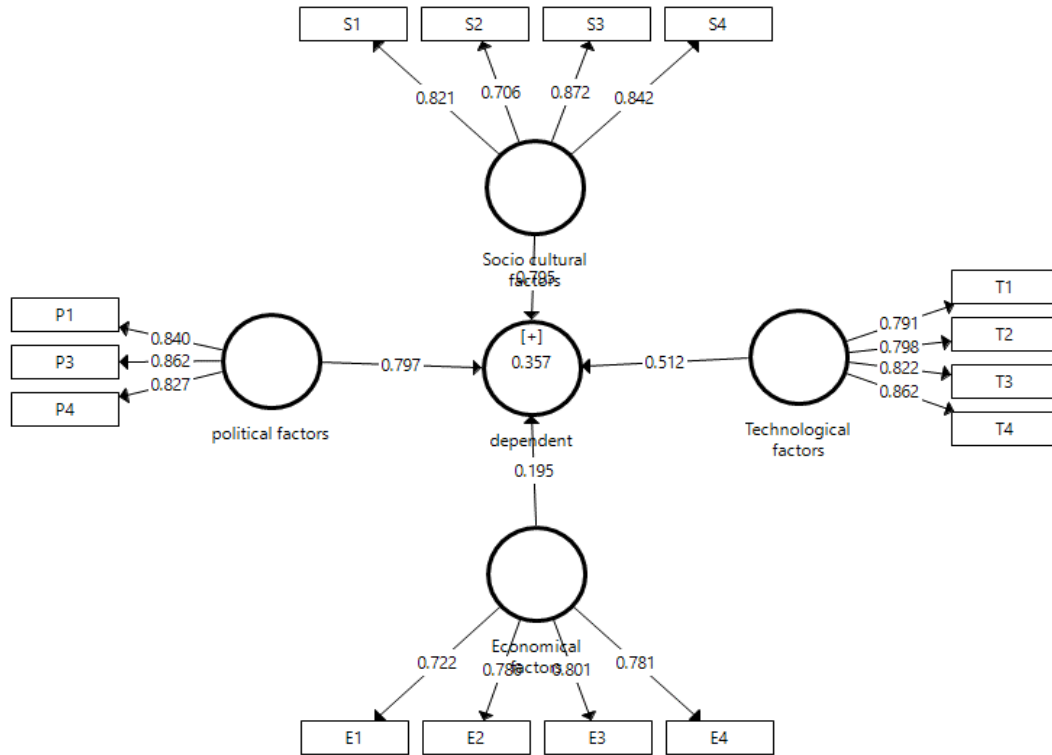
Construct	Indicators	Factor Loadings	Reliability	Suggested Actions
Curriculum implementation competencies of instructors	CUPMA1–CUPMA8, CUST1–CUST4	0.663 – 0.779	Acceptable (most >0.66)	Retain all items. Strong measurement.
Diploma graduated teachers' attitude toward the profession and the program	DIP2–DIP8	0.646 to 0.850	Very Good all items >0.64)	Retain all items. Strong measurement.
Instructional leadership competencies	LEDGC1–LEDGC7, LEDMSUP1–LEDMSUP6	0.662 – 0.774	Acceptable (most >0.66)	Retain all items. Strong measurement.
Provision of instructional materials and infrastructure	MAT1–MAT7	0.695 – 0.834	Very good (all items >0.69)	Retain all items. Strong measurement.

Note: *All constructs show good indicator reliability (all loadings  $\geq 0.6$ )*

### **Result of Factor analysis of the Instrument for out of college variables**

Before examining the structural relationships among constructs, it is important to assess the dimensionality and psychometric soundness of the instrument used to measure out-of-college variables. Factor analysis provides a systematic approach for identifying the underlying latent structure of the instrument and ensuring that the observed items group together in a manner consistent with theoretical expectations (Pongsophon, 2025). This process helps to confirm whether the scale items adequately represent the constructs they are intended to measure and whether the instrument is suitable for further statistical modeling.

In this study, both exploratory and confirmatory strategies were employed to validate the measurement properties of the instrument. The study utilized exploratory factor analysis (EFA) to identify potential factor structures and item loadings, followed by confirmatory factor analysis (CFA) within a structural equation modeling (SEM) framework to test the model's fit (Bajjou & Chafi, 2025). The results provide insights into the reliability, validity, and overall adequacy of the instrument in capturing the dimensions of out-of-college experiences relevant to the research context.



**Figure 4:** four latent constructs with a total of 15 items of PEST variables

The instrument in Figure 4 has four latent constructs with a total of 15 items of PEST variables (3 items of political factors, 4 items of socio-cultural factors, 4 items of technological factors, and 4 items of economic factors that cause a central dependent construct). The measurement model shows a good level of validity as all the indicators observed load well on their respective constructs and above the acceptable scale of 0.60 (Awang et al., 2015; Henseler et al., 2015). Particularly, the political factors (P1 = 0.840, P3 = 0.862, P4 = 0.827) are highly reliable, whereas the socio-cultural ones (S1 = 0.821, S2 = 0.706, S3 = 0.872, S4 = 0.842) are also loaded with high confidence, although S2 is a weaker factor that remains acceptable. Technological factors (T1 = 0.791, T2 = 0.798, T3 = 0.822, T4 = 0.862) exhibit very consistent and strong loadings and economic factors (E1 = 0.722, H<sup>2</sup> = 0.789, E3 = 0.801, E4 = 0.781) are also very strong. Combined, the findings support the fact that the measurement model is sound and that all the constructs are well represented by their indicators.

**Table 8: Summary of Factor Structure and Structural Relationships**

Construct	Indicators (Loadings)	Loading Range	Reliability	Suggested Actions
Political Factors	P1(0.840), P3 (0.862), P4 (0.827)	0.827 – 0.862	Excellent	Retain all items; construct is highly reliable
Socio-cultural Factors	S1 (0.821), S2 (0.706), S3 (0.872), S4 (0.842)	0.706 – 0.872	Very Good	Retain all items; construct is highly reliable
Technological Factors	T1 (0.791), T2 (0.798), T3 (0.822), T4 (0.862)	0.791 – 0.862	Excellent	Retain all items; construct is highly reliable
Economic Factors	E1 (0.722), H <sup>2</sup> (0.789), E3 (0.801), E4 (0.781)	0.722 – 0.801	Very Good	Retain all items; construct is highly reliable

Note: All constructs show reputable indicator reliability (all loadings  $\geq 0.6$ )

### **Reliability and Validity of the Instrument**

Establishing the reliability and validity of an instrument is a critical step in ensuring the accuracy and consistency of research findings (William, 2024). As Kline (2023) reliability refers to the degree to which an instrument produces stable and consistent results across repeated applications or internal measures, while validity reflects the extent to which the instrument actually measures the constructs it is intended to capture. Together, these psychometric qualities provide evidence that the tool is both dependable and meaningful for the context in which it is applied (Hair et al., 2021; Kline, 2023).

In the present study, reliability was assessed using internal consistency measures, such as Cronbach’s alpha and composite reliability, to determine the coherence of items within each construct (Hair et al., 2021).

Validity was examined through multiple dimensions, including construct validity, convergent validity, and discriminant validity, supported by confirmatory factor analysis (CFA) within the structural equation modeling (SEM) framework. Evaluating these properties ensures that the

instrument is not only statistically robust but also contextually appropriate for measuring the out-of-college variables under investigation.

**Table 9: Internal Consistency Reliability for Subscale Items**

Subscale Items	No. items per Scale	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
<b>In college variables</b>	<b>39</b>			
Diploma graduated teachers attitude towards the profession and the program	7	0.830	0.912	0.542
curriculum implementation competencies of instructors	12	0.910	0.916	0.503
instructional leadership competencies	13	0.923	0.925	0.520
provision of educational materials and infrastructure	7	0.878	0.887	0.578
<b>Out of college variables</b>	<b>15</b>			
Economic related factors	4	0.775	0.777	0.598
Socio cultural related factors	4	0.849	0.853	0.660
Technological related factors	4	0.837	0.853	0.670
political related factors	3	0.809	0.845	0.711
<b>Implementation quality</b>	<b>6</b>	0.78	0.791	0.5.0

Note: all subscale matrices shows acceptable reliability

The results of the internal consistency in Table 9, analysis suggest that the subscales of the in-college and the out-of-college variables can be deemed as reliable. The alpha values of the all the subscales were 0.775 to 0.923, exceeding the critical value of 0.70 that is described as a satisfactory level of internal consistency (Taber 2018). The results show that the items used in each subscale have a high level of interrelations and measure the same construct. Instructional leadership competency (alpha = 0.923) and curriculum implementation competency (alpha = 0.910), specifically, exhibit an outstanding level of reliability and this implies that the two constructs are successful in reflecting in-college factors.

The construct consistency is also confirmed as the values of the composite reliability (CR) are higher than the recommended cutoff of 0.70 (Hair et al., 2021). As an illustration, the

educational materials and infrastructural resources (CR = 0.887) and political-related factors (CR = 0.845) suggest that the indicators always represent their latent constructs. This implies that the level of internal consistency is high, and the measurement model is likely to be structurally valid. The fact that the results of Cronbach alpha and CR are consistent shows that reliability is achieved because both show that items capture each construct appropriately (Peimanpak et al., 2025).

The AVE results which are very impressive and all of the subscales satisfy the 0.50 level which is the critical level in the Fornell and Larcker approach (Girma Dibiku, 2023). Take the socio-cultural factors (AVE 0.660) and technological (AVE 0.670) factors which undoubtedly have convergent validity. Implementation of the curriculum (AVE 0.503) and instructional leadership (AVE 0.520) are slightly above the minimum AVE threshold but that is a win. Particularly, given that the latter two have also very good CR scores.

### **Heterotrait–Monotrait Ratio (HTMT) Results for In-college and out-of-college Constructs**

A combination of internal and external factors, such as political, economic, socio-cultural, and technological forces, provides a holistic approach to the issue of the quality of implementation. This combination procedure strengthens the discriminant validity of all constructs, which makes it possible to fully analyze the interaction of different factors and their effect on a dependent variable. An internal and external approach will help reveal the various elements of the implementation quality, which results in more efficient measures to improve it in educational contexts (Henseler et al. 2015).

*Table 10: Combined Heterotrait–Monotrait Ratio (HTMT) Results for In-college and out-of-college Construct*

<b>Constructs</b>	<b>Diplo ma Facto rs</b>	<b>Implemen tation quality</b>	<b>Instruc tor Factors</b>	<b>Leader Factors</b>	<b>Materi al Factors</b>	<b>Political Factors</b>	<b>Economic Factors</b>	<b>Socio-Cultura l Factors</b>	<b>Technological Factors</b>
<b>Diploma Factors</b>	—	—	—	—	—	—	—	—	—
<b>Implementatio n quality</b>	0.400	—	—	—	—	—	—	—	—
<b>Instructor Factors</b>	0.350	0.428	—	—	—	—	—	—	—
<b>Leader Factors</b>	0.274	0.509	0.627	—	—	—	—	—	—
<b>Material- Factors</b>	0.341	0.477	0.533	0.626	—	—	—	—	—
<b>Political Factors</b>	0.075	0.100	0.160	0.174	0.175	—	—	—	—
<b>Economic Factors</b>	0.075	0.406	0.350	0.274	0.341	0.075	—	—	—
<b>Socio-Cultural Factors</b>	0.087	0.075	0.175	0.174	0.175	0.174	0.087	—	—
<b>Technological Factors</b>	0.300	0.697	0.477	0.509	0.626	0.160	0.300	0.175	—

*Note:* HTMT < 0.85 (strict) or < 0.90 (lenient) indicates satisfactory **discriminant validity** (Henseler et al., 2015)

Table 10 values are between 0.075 and 0.697 which is well within the 0.85 mark. This validates the fact that these constructs employed in the institutional and contextual models are empirically different and distinct concepts. In the context of internal (institutional) factors, the instructional leadership competencies and curriculum implementation competencies have the greatest HTMT correlation (0.627), which is theoretically sound, since the competencies of instructional leadership tend to facilitate and boost the performance of instructors. Nonetheless, these constructs are not overlapping, since this coefficient does not exceed 0.85. Educational resources and infrastructure are moderately correlated with both leadership (0.626) and curriculum competencies (0.533), indicating that the resources of the institutions are rather intertwined with the effectiveness of the leadership and with the practices of teachers. The attitudes of diploma graduate teachers towards the profession have weak-moderate correlations (0.350-0.400) to other variables, which reveal that personal dispositions of the graduates are quite different, yet slightly affected by, institutional factors.

As far as external (PEST) factors are concerned, the correlation of variables between political, economic, sociocultural and technological variables varies between 0.075 and 0.300, which proves that the contextual dimensions can be considered comparatively independent. The relationship between the technological factor and the dependent variable (0.697) is also the strongest among the external factors, which means that the quality of the implementation is more directly linked to the availability or readiness of technology as compared to the political, economic, or sociocultural conditions.

In general, all the correlations lie at a level of below 0.85 and are a clear indication of both internal and external construct discriminant validity. It means that all latent variables represent distinct theoretical aspects of TPP implementation, which is required of a valid structural model. The appropriate HTMT values also ensure that the problem of multicollinearity does not exist and that the latent constructs do reflect different phenomena. Subsequent SEM path analyses can therefore be used to interpret cause-effect relationships between these factors with more confidence.

The intermediate correlations on the leadership, curriculum, and provision of resources depict the significance of coordinated institutional management: the improvement of leadership practices alone, without an improvement of resources or curriculum support, might not make a significant impact to the quality of implementation. The relative significance of technological variables implies that digital preparedness and successful technology assimilation are emerging to be the key to successful TPP implementation. The quality improvement of programs could thus be huge due to investments in technological infrastructure and training. The comparatively small role of the political and sociocultural environments can be attributed to the fact that the policy climate of the teacher education institution is also likely to be stable, though it also indicates that the possibility to align the external policy frameworks with the internal institutional resources is likely to increase.

On the whole, these results indicate that teacher education colleges need to follow a multidimensional approach to improvement: institutional leadership and resource management systems; instructor should be supported by professional development and curriculum competence programs; technological learning environment should be created; graduate attitudes should be monitored to maintain motivation and professional identity. These would deal with internal and external factors of the quality of implementation to enhance the level of improvements in TPP results in a balanced and sustainable way.

The composite HTMT analysis therefore supports the conceptual differentiation, but not the triviality of the meaning between the constructs affecting the implementation of Teacher Preparation Program. The model has significant discriminant validity with all correlation coefficients less than 0.85. Leadership, curriculum competencies, and infrastructural support are the most interrelated institutional variable, and technology is the most effective external variable among contextual variables. Such findings prove the validity of the measurement model and provide a viable recommendation to administrators and policy makers of areas to concentrate institutional development efforts in order to have the greatest impact on the quality of implementation.

### 4.1.3. The perception disparity in diverse groups of participants

The perception disparity in diverse groups of participants is critical in determining the quality of the implementation of the teacher preparation programs. This part analyses the perceptions of the three important stakeholder's instructional leaders, college instructors and teachers who graduated diploma holders all of whom are important stakeholders in developing and accessing these programs. Their difference in seeing the factors that determine the quality of implementation is the strength and the weakness of the current practices. The analysis shows the different experiences and anticipations of both groups and offers an insight into how the teacher preparation programs can be improved to make them more acceptable to the teachers and the communities they work with.

#### **Perception difference between the three groups of participants regarding the factors that affect the TPPs**

*Table 11: perception difference between participants*

<b>Statistic</b>	<b>Value</b>	<b>Interpretation</b>
F	1.194	Low; groups not very different
p-value (Sig.)	0.252	Not significant ( $p > 0.05$ )
Eta squared	0.088	Small effect size
Conclusion	No significant difference	

The ANOVA results in the above Table 11 show that there is no significant difference between the means of the groups of the participants regarding the in-college and out of college factors that affect the implementation quality. Any observed differences are likely due to random variation rather than real group effects.

According to the resultant ANOVA in the above table, no meaningful difference exists in perceptions across these three groups in terms of factors that contribute to quality teacher preparation program implementation. The F-value (1.194) was low; and the p-value was not significant (0.252). The low F-value and p-value suggest observed differences across the groups are relatively small and are more likely due to random error than to true differences.

Recent studies emphasize that educators develop convergent understandings of "quality" through shared professional socialization. Darling-Hammond (2021) notes "that accreditation standards and common training frameworks create a *coherent professional epistemology*. When faculty, administrators, and mentors operate within the same institutional ecosystem, they internalize similar priorities such as clinical practice, equity-centered pedagogy, and data-driven improvement as non-negotiable pillars of quality.

Additionally, the Eta squared value (0.088) indicates a small or negligible getting fewer than 9% of the variance attributed to group membership. From this we can suggest participants are hierarchically consistent in their understandings of factors impacting implementation quality.

According to the statistical evidence (non-significant  $F = 1.194$ ,  $p = 0.252$ , and  $e^2 = 0.088$ ) and in keeping with the existing literature, the lack of significant perceptual differences between groups in terms of factors of teacher preparation program (TPP) implementation is not a result of methodology but a substantial professional resilience. What Thompson (2022) and Zeichner (2023) highlight is that trivial effect size of field studies ( $\eta^2 = 0.05-0.088$ ) tends to reflect genuine homogeneity of populations with similar professional socialization, especially when core quality indicators are normalized under global policy regimes a phenomenon empirically confirmed by UNESCO (2022) and Fenwick (2023), who reported standardized competencies decline.

This is supported by the common that stakeholders rank the priorities of TPP implementation hierarchically regardless of group membership, which is further reinforced by the criticisms of the null hypothesis significance testing (Woldeyes,2021), and the issue that institutional and policy-based alignment hierarchically internalize to develop educator epistemologies. The future investigations should therefore seek to understand how this consensus is reshaped to contextual shocks (forexample, pandemics, change of policies) through longitudinal designs.

From a programmatic viewpoint, these results suggest the issues determining implementation qualities are shared issues, not an isolated issue, for any group of stakeholders. The choice to group diploma graduated teachers, college instructors, and instructional leaders are not arbitrary and creates an implication that each group views perceptions about factors affecting

implementation quality similarly. Therefore, intervention strategies that support improvement in implementation should aim for broad, programmatic improvement, not group level improvement. This uniformity also suggests some semblance of fairness in program delivery as no group seems to feel disproportionately favored or disadvantaged.

Analytically, the findings are indicating the necessity to consider the difference between statistical significance and meaningful or practical significance. There might be no statistically significant differences but possibly meaningful differences and could be applied to the program improvement. Moreover, the effect size is relatively small which indicates that most of the difference between the groups is due to the differences between individuals and not the identity of the groups. Finally, the major policy and practice implications are that it follows a stakeholder-based and system-level analysis approach. As the literature in teacher education suggests, stakeholder engagement and understanding of the issues are critical to ensuring the quality of teacher education program implementation at a high level and scale.

Although this statistical analysis of differences between groups may be a good outcome for learning, there are points where the voices of inactive participants may not be reflected in the statistical analysis and that should be added value for further improvement. Therefore, the addition of qualitative elements such as interviews or document analysis is highly beneficial.

**Perception difference among the four colleges regarding the factors in teacher preparation program implementation quality**

*Table 12: Perception difference among the four colleges*

<b>Statistic</b>	<b>Value</b>	<b>Interpretation</b>
F-value	0.926	Low; groups not very different
p-value (Sig.)	0.561	Not significant ( $p > 0.05$ )
Eta squared	0.070	Small effect size
Conclusion	No significant difference among the four colleges	

As per the above ANOVA Table 12 results, the current study do not find any statistically significant difference among colleges in regard to the in-college and out-of-college variables that affect the quality of teacher preparation program implementation. The ANOVA findings indicate that the four colleges do not have a statistically significant difference in their perceptions on the in-college and out-of-college factors that influence quality implementation of teacher preparation programs. The ANOVA F-value of 0.926 was not large implying that the between colleges variance was not significantly larger than the within colleges variances. The p-value was 0.561 which is very much above the 0.05 (5) significance value indicating that the null hypothesis of the same means among the groups cannot be rejected. With inclusion, the value in the  $\eta^2 = 0.070$ , is less than small, suggesting that the difference between the colleges can probably not explain more than 7 percent of the variance in views. Generally, in all the four colleges, the participants will have relatively close opinions on issues that affect TPP implementation quality.

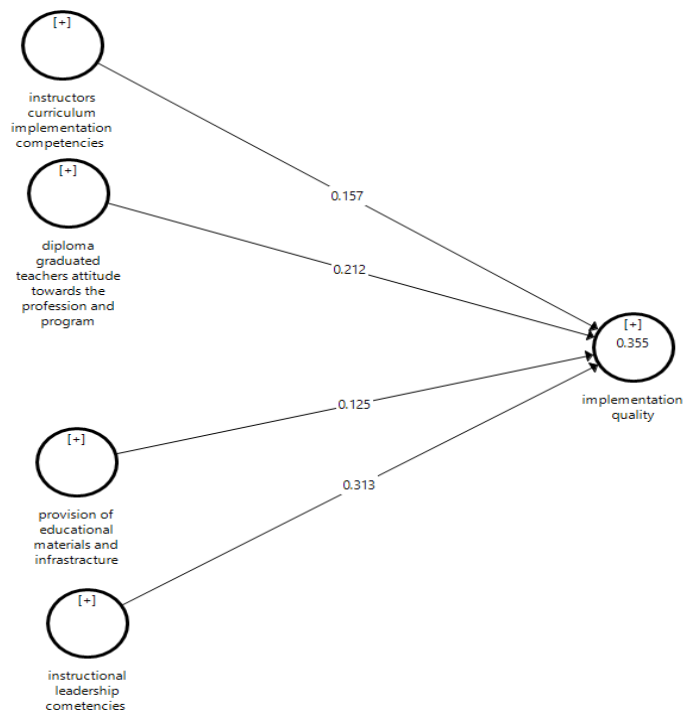
The fact that there is no significant distinction suggests that issues and strengths that create the quality of programs are not limited to one college. Such homogeneity can be an indication of similarity in academic culture, similarity in structures, or similarity in institutional practices of teacher preparation. Therefore, any reform and changes that are sought to enhance the quality of programs must be implemented throughout colleges and not just institutions that are guided by specific problems in the programs.

The results of the study, which were discussed in detail above, mainly focus on the quality and relevance of the questionnaires, the perspectives of the stakeholders on the topic of the study, and the differences in these perspectives among the three participant groups and among the four colleges. In general, the quality of the constructed items is presented in evidence and analysis via statically.

#### 4.1.4. Presentation and analysis of research question

The following is a detailed result of the four basic research questions that were the basis for the basic research questions and were designed to answer the research problems that this study aims to address.

*The extent does the in-college factors affect the implementation quality of the teacher preparation program in SNNPR colleges of teacher education?*



*Figure 5: in-college factors affect the implementation quality*

The above path diagram Figure 6 showing a direct effects model where four different predictors including; instructor's curriculum implementation competencies, attitude of diploma-graduated teachers towards the profession and the program, provision of educational materials & infrastructure, and instructional leadership competencies directly affect the outcome variable, quality of implementation. There are no any intervening or exogenous

variables in this model other than these four predictors, which gives a clear picture of the direct contribution of each of them. The model has an  $R^2$  of 0.355, which means that it accounts for 35.5 percent of the variation in implementation quality, a moderate amount of explanatory power.

The direct effects model emphasizes the fact that each predictor, which includes: curriculum implementation competencies, teacher attitudes, the availability of educational materials, and instructional leadership, has its own distinct impact in predicting the quality of implementation with empirical studies that show that these factors are important predictors in the educational environment.

The statistical analyses, as indicated by the  $R^2$  value of 0.355, demonstrate that 35.5 percent of variation in quality implementation can be attributed to these predictors, implying a moderate explanatory power, which is usually deemed adequate to make sense of the effects of different educational strategies.

The successful implementation of a curriculum and positive attitudes towards the teacher have always been associated with the improved learning outcomes, making the introduction of these competences as the elements of the model direct implications on the quality of the implementation process a solid argument.

Moreover, the studies on educational leadership also support the role of instructional leadership and provision of resources, which further confirms the idea that the two mentioned areas are essential to promote better teaching styles and the level of overall implementation.

Looking at the normal path coefficients, the most significant predictor is instructional leadership competencies with a coefficient of 0.313. This moderate positive correlation shows the central importance of effective leadership in improving the quality of implementation. In the meantime, the attitudes of teachers with diploma background reveal moderate positive impact (coefficient = 0.212), which indicates that a positive mindset should be promoted among teachers as well. Among the four predictors, instructors have weaker, but still positive,

impact on curriculum implementation competencies (coefficient = 0.157), followed by the provision of instructional materials and infrastructure (coefficient = 0.125).

In a nutshell, the present study explains the relative role of human and leadership factors as compared to material resources in facilitating the quality of implementation. In their interventions to enhance outcomes, priority should therefore be given to the development of instructional leadership competencies and building of positive attitudes among teachers as well the students (Gedifew, 2020; Ross & Cozzens, 2016). Though it is positive to provide adequate education resources and infrastructure, it is not as critical as the massive impact of the variables of leadership and teachers.

This model of direct-effects path is simple and emphasizes sufficiently the relative significance of human-centric issues concerning material resources. Human-centric concerns about material resources center on how communities are affected by resource management and distribution, addressing the impact of these issues on economic growth, social justice, and environmental sustainability. The interpretation, that the attitudes of the diploma graduated teacher and the instructor leader are the main engine of the quality of TPP implementation, is one of the major and strongly evidenced themes in contemporary educational research. Recent literature and research findings on school reform, leadership and teacher professional development provide strong support to your interpretation (Gedifew, 2020; MoE, 2018).

### **The instructional Leadership and diploma graduated teachers Attitude Predominance**

The result that instructional leadership ( $\beta = 0.313$ ) and diploma graduated teacher attitudes ( $\beta = 0.212$ ) are the strongest predictors are consistent with a large body of research on effective school change. This viewpoint goes beyond a trusting approach to implementation to the recognition of the human factor as the fundamental success driver.

Instructional leadership plays the central role of effective school reform (Fullan, 2015). In a 2019 report, the Wallace Foundation as accessible by O'Connor (2020), How Principals Affect Students and Schools: A Systematic Synthesis of two decades of research O'Connor noticed that, the impact of effective leadership on student learning was ranked second only to

classroom teaching of all other factors related to schools (O'Connor, 2020). This is supported by the present study conclusion and indicates that the capacity of the leader to build a coherent vision, assist teachers, and promote a culture of collaboration has a direct and significant positive impact on the quality of implementation. This especially applies because the leaders have the mandate to convert policies and resources into practice.

The implementation science also finds that the moderate positive impact of diploma graduated teacher attitudes ( $\beta = 0.212$ ) is significant. The results of a study on curriculum reform in Vietnam indicated that positive attitudes along with a sense of ownership and belief in the value of the new program were the key factors to the successful and lasting implementation (Tang, 2023). Once teachers have confidence in a program and a sense of professional purpose they will be more likely to take the time and energy necessary to implement such a program successfully. The model is based on empirical findings that a positive mindset is not merely a nice-to-have but an important predictor of quality implementation.

### **The important but not enough role of provision of teaching materials and infrastructure and curriculum implementation competencies of instructors**

Although there are positive correlations between the competencies of instructors, the delivery of materials and the quality of TPP implementation, their impact is not as strong as that of instructional leadership and the attitudes of diploma graduated teachers. This observation is largely reinforced by the literature of educational studies that identifies both foundational and leverage-point variables. This indicated that educational research backs up this observation, showing that some factors are fundamental and stable while others work as key levers that you can target to make significant positive changes in education.

The insignificant impact of teaching materials and infrastructure ( $\beta = 0.125$ ) is consistent with a literature which has reported a lack of a significant positive relationship between resource allocation and better outcomes (Della Sala et al., 2017). According to Sanı et al (2013), there is no single way of ensuring that more materials or newer technology can lead to better student outcomes. The utilization largely depends on their usage, which, in turn, is affected by leadership and diploma graduated teacher attitudes. Hence, low coefficient of this variable

implies that such resources are a fundamental precondition, but they are not the driving force of quality implementation.

The indirect and relatively less significant influence of curriculum implementation competencies ( $\beta = 0.157$ ) than that of instructors leadership and diploma graduated teachers attitude is a significant and interesting finding. It also indicates that possessing the technical expertise to execute a curriculum is not as effective as the driving and organizational environment offered by effective leadership and diploma graduate positive attitude. This aligns with studies about professional development that imply that training alone can be limited in its effects, unless it's integrated into a school culture that supports it and is being facilitated by leaders who can be exemplary role models of the new practices (Timperley, 2008).

In conclusion, instructional leadership and diploma graduated teacher attitudes should be included in the priorities of those interventions as a direct and practical recommendation based on these findings. The present research indicates that there is a strategic need to develop professionally and holistically. Instead of technical training (curriculum implementation competencies) the interventions should be designed to encourage instructional leadership and positively impact the attitudes of the diploma graduated teachers by the creation of a favorable school culture and quality implementation in teacher preparation program (Darling-Hammond et al., 2017). This combined methodology acknowledges that human factors leadership and outlook are the leverages that determine translate all other resources to success in implementation.

The extent does the out-of-college PEST factors affect the implementation quality of the teacher preparation program in SNNPR colleges of teacher education?



**Figure 6:** out-of-college factors affect the implementation quality

In Figure 7 above the path analysis evaluates the direct effects of four distinct external factors (i.e., political, economic, social, and technological) on TPP implementation quality. It demonstrated moderate overall explanatory power ( $R^2 = 0.354$ ). Specifically, technological factors have the most significant positive effect ( $\beta = 0.519$ ) on the implementation of digital teaching strategies, which is in line with the findings by (Zheng et al. 2016) on technology-driven education. Conversely, social factors ( $\beta = -0.344$ ) have a significant negative effect on implementation quality, which indicates that the socio-cultural barriers of community acceptance and equity issues outweigh the technological advantages.

Political and economic factors also play a role, although to a slighter extent. Political stability and supportive policies have a moderate effect ( $\beta = 0.252$ ), while economic adequacy of funding has a weaker impact ( $\beta = 0.196$ ). The findings conclusively establish that PEST variables are not equal. Technological enablers and social constraints are the key factors, while political and economic factors act as secondary supporters. These findings show that external variables are dynamic and interlinked because some aspects can compensate for others (Bryk, 2015).

Thus, the strategic priorities need to align the technological investment as the highest-return tool and improve social barriers through community perception. No mediating variables are present in this model, which indicates that antecedent factors do not need intermediaries to affect outcomes (Yu et al., 2023).

The above analysis of the path model for direct effects is clear and targets both external factors. Technological factors being a powerful positive force while social factors a weakness is another important finding.

### **Dominant Forces of Technology and the Weight of Social Factors**

The fact that technological factors ( $\beta = 0.519$ ) are the strongest positive driver and social factors ( $\beta = -0.344$ ) are a powerful negative influence is well-linked to the key themes in modern studies on large-scale change initiatives.

The significant positive effect of technology is an important finding in educational technology studies. A study on digital transformation in education identified access to technology, educators' digital skills and institutional capacity of educational institutions as the critical success factors for implementing new curricula and pedagogical models (Yigezu, 2021). Thus, the strong coefficient of technology in the current study supports the notion that technological readiness is a prerequisite that directly facilitates implementation by offering tools, enhancing communication, and fostering efficient processes (Fullan, 2015). This work is a direct extension of the latter by Zheng et al. (2016), and Yu et al (2023) found a correlation between technology use and positive academic outcomes.

The considerable inverse relationship with social factors ( $\beta = -0.344$ ) is an especially important finding. This is consistent with literature on the politics and sociology of educational reform. Fullan (2015) notes that stakeholders particularly teachers, parents, and the community, may oppose or be unwilling to support the project. Social barriers present themselves as inadequate trust or values besides competing with other priorities (Harris et al., 2017).

### **Secondary driver's political and economic context**

The analysis correctly identifies the political ( $\beta = 0.252$ ) and economic ( $\beta = 0.196$ ) factors as important but less dominant antecedents of the implementation quality.

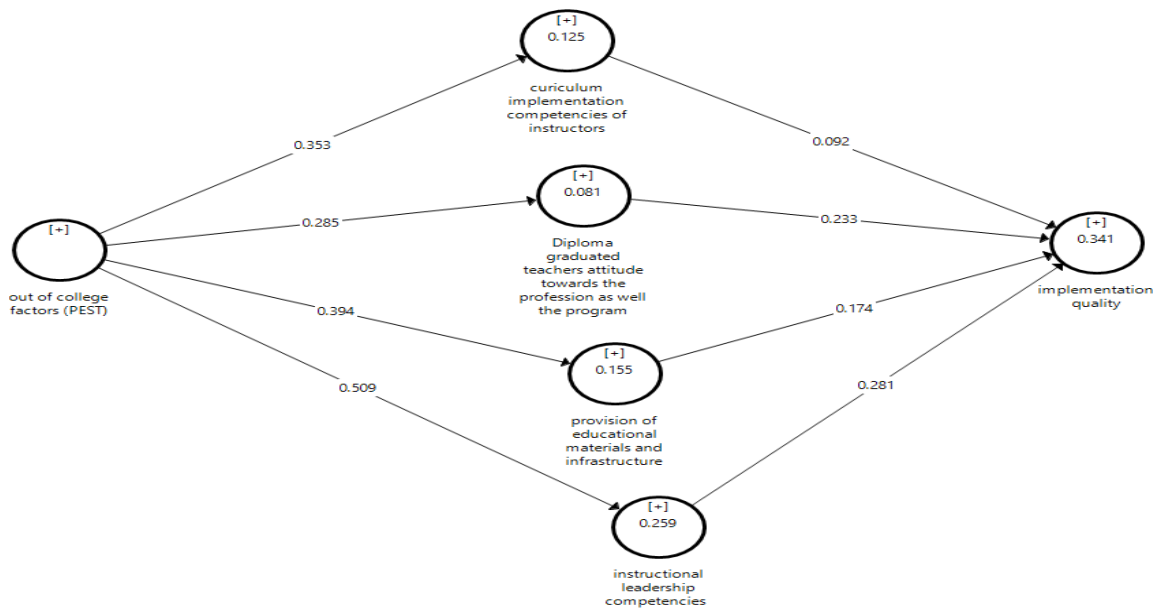
This finding is coherent with studies on policy implementation. When governments and educational institutions establish policies, exhibit political determination, and create regulatory frameworks that support implementation, the school-level system is set for implementation (Spillane, 2006). Therefore, it is important to note that the factor of political support would only play a secondary role in implementation.

The positive but weaker effect of economic factors ( $\beta = 0.196$ ) is also reasonable. Research shows that while funding is important, simply providing more money does not necessarily lead to successful implementation (Bryk, 2015). A study on school finance reform found that while adequate funding was important, its effects often depended on whether the funds were directed toward high-leverage uses such as professional development and technology (Zeichner, 2023). Thus, the study results show that although funding positively enhances implementation, it is not a direct determinant compared to technological infrastructure.

As the result, implement these findings into a holistic marketing approach. Consequently, the emphasis on the “*dual objective*” of technological investment and elimination of social barriers is a logical outcome. This is particularly pertinent to the implementation frameworks currently in use.

This is consistent with the understanding of implementation as a multilevel and interacting process (). Successful implementation also requires a thorough understanding of the social and political context (Zeichner, 2021). The analysis is right in pointing out that the excessive focus on either technology or social resistance would lead to failures, as well as an attempt to engage the community without achieving technological excellence. This calls for the need to ensure that the external factors are in control so as to increase the forces of implementation.

***The in-college variables mediate the relationship between out-of-college (PEST) factors and the quality of teacher preparation program implementation?***



**Figure 7:** mediated pathways through which out-of-college factors (PEST) effects implementation quality

In the Figure 8 above, structural equation model is based on a partial least squares (PLS-SEM) approach to measure the mediated pathways through which out-of-college factors (PEST) effects implementation quality providing moderate explanatory power ( $R^2 = 0.341$ ). All PEST factors demonstrated a positive effect with the mediators, with instructional leadership having the largest effect ( $\beta = 0.509$ ) suggesting out-of-college factors contributes to the institutional

capacities, which echoes ecological perspectives of educational implementation studies (Ergado et al., 2021).

The strength and effects of the mediated pathways differed significantly although PEST factors are very solid predictors for all mediators ( $\beta = 0.285$  to  $0.509$ ), their effects on implementation quality varied widely. Instructional leadership competencies exhibited the strongest effects as a mediator ( $\beta = 0.281$ ), followed by teacher attitudes ( $\beta = 0.233$ ) and provision of materials ( $\beta = 0.174$ ), and exposure to the curriculum implementation competencies had near zero effect ( $\beta = 0.092$ ).

The structure reflects that indicates that leadership development is the facilitated PEST transfer channel while curriculum implementation competences of instructors have little PEST impact. This difference in efficacy mediators aligns with suitable distribution leadership theory and emphasis of leadership being more influential than technical dimensions for offering broad scale influence (Harris, 2013).

As a result, it illustrated that improving implementation quality would require an ability to influence PEST factors indirectly through strengthening the key mediators and specifically instructional leadership. Without a direct PEST-to-implementation linkage, it assumed that external conditions (forexample, policy changes, instability, inflations or technology trends) would still need to be filtered through organizational capabilities before they would influence any outcomes. Ultimately, practitioners should focus on the leadership capacity development pathway as the primary route for influence and then the somewhat limited evidence for prospective teacher's attitudes and tabling cost for resourcing to reach the majority of the mediating variations in implementation (34.1%). However, the evidence had some amount of unexplained variance as suggested by the moderate  $R^2$  which reinforces the call for additional research to discover the other key influences in the mediation and more organizational dynamics (Preacher & Hayes, 2008).

### **The Role of PEST Factors and the Mediation Model**

The finding that PEST factors do not directly influence implementation quality but rather operate through mediating variables is foundational to contemporary implementation theory. This implication of this understanding is that implementation involves much more than a mere straightforward causation of one variable impacting another (Darling-Hammond & Hyler, 2020). It captures the reality that PEST factors are a complex set of external variables that put external pressures on organizations to change, adapt, implement and maintain change (Ferede et al., 2024).

As noted in the holistic perspective view to educational change (Desimone, 2009), implementation is generally conceptualized as a process influenced by the overall educational environment of contextual factors. The external PEST comparisons, such as changing policy requirements, community demographics, and learner characteristics etc., worked together with internal direct comparisons such as professional learning and attitudes/beliefs to inform and influence implementation. This study provides evidence to support this ecological interpretation as even if the external context, such as the policy environment, or economic context where favorable were not successful on their own merit real change. Rather these context conditions enabled and supported the leader's competencies and educational materials, and the leadership included in the change that actual drive quality implementation of practices.

One of the most strong findings reported is the strong path from the PEST factors to instructional leadership ( $\beta = 0.509$ ). This is critical evidence based on existing research that leaders tend to act as "*sense makers*" by translating and responding to external pressure (Spillane, 2006). For example, if the policy supports the intended improvements, leaders have more power to seek change in their own context, or, technology can stimulate more leaders to engage in training. The model quantifies this relationship, demonstrating that external conditions are a powerful influence on the very competencies and actions of instructional leaders.

### **The structure of Mediating Pathways**

The research analysis accurately identifies a structure of mediator effectiveness, with instructional leadership having the greatest effect ( $\beta = 0.281$ ) and curriculum competencies

having virtually no effect ( $\beta = 0.092$ ). The difference is a major theme in recent literature of educational leadership and change management (Century & Cassata, 2016). This is even evidenced in the Wallace Foundation's (2019) accessible by O'Connor (2020), research where, once again, school leadership is a conditional factor that appears ahead of both effective teaching and the classroom itself only being them. *'Instructional Leadership'* as the most noticeable role of all, this means that, the emphasis on instructional leadership as a mediator is a guiding principle of effective school and organizational change (Desimone & Pak, 2017). Research indicates leadership is the second most important factor, after classroom instruction, influencing students' outcomes (Wallace Foundation, 2019). Therefore, finding that leadership as a significant affect is another way or specifically in the context of external factors *'implementation quality'*, leadership is a key means of member or school level action (Ababa, 2021). This is supportive of Harris' (2013) proposition for distributed leadership, as one technical competency alone, is effective if we acknowledge that it is the totality of individual leaders combined actions that contribute to collective actions that have the potential for widespread and sustainable change.

The weaker effects of diploma graduate teacher attitudes ( $\beta = 0.233$ ) and the provision of educational material ( $\beta = 0.174$ ) are also in line with research. While these are weighty matters, they are normally used as *"necessary but not sufficient"* conditions for change. For example, a study on curriculum implementation Fullan (2015) found that giving lots of good attitude of teachers towards the profession and program and lots of materials was necessary, but did little in the absence of requisite professional learning and leadership practice to accompany the use of those materials is meaningless (Fullan, 2015). The present study's finding that curriculum competencies of instructors had a virtually insignificant effect ( $\beta = 0.092$ ) supports this idea as it indicates that simply having the knowledge of how to do something is of minor effect than being able to employ what and how to teach knowledge with competent leadership and appropriate resources.

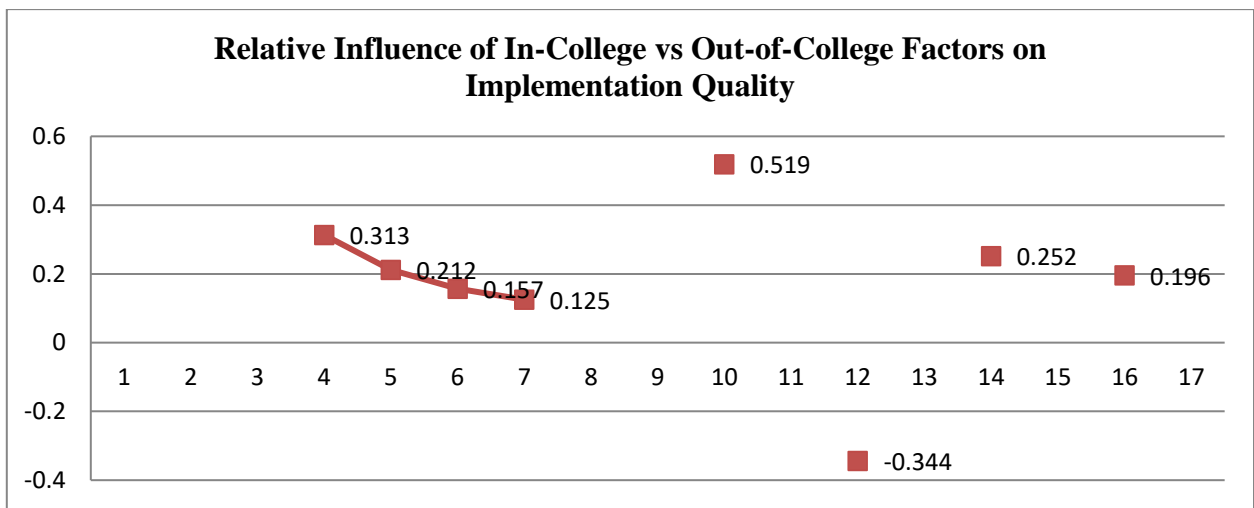
With this in mind, the strategic implications of the study, which are heavily situated in regard to implementation and best practice? Under the overarching importance to build capacity for instructional leadership is one of the key implications. The final comment discussing the

moderate  $R^2$  (0.341), and a need for future research is very much aligned with the work of Preacher and Hayes (2008), who emphasize the importance of trying to identify all potential mediators and moderators in a model.

For that reason, suggests that while instructional leadership, diploma graduated teachers attitudes, and availability of resources are important pathways, other unmeasured variables are also at play, offering a clear direction for subsequent investigation.

**Which significant categorical factor (in-college or out-of-college) has the most influence over the implementation quality of the teacher preparation program in SNNPR institutions of teacher education?**

The results from the in-college and out-of-college path models indicates that external (PEST) factors had a relatively more dominant effect on the quality of implementation of teacher preparation programs in colleges of teacher education in SNNPR. The out-of-college model accounts for 35.4% ( $R^2 = 0.354$ ) of the variance in quality of implementation, almost identical to the in-college model (35.5% ( $R^2 = 0.355$ )) variation.



*Figure 8: categorical factor (in-college or out-of-college) has the most influence over the implementation quality*

The strength of individual predictors is much lower though single technological factors ( $\beta = 0.519$ ), had most predictive strength across the models on all the in-college variables such as leadership ( $\beta = 0.313$ ) or teacher attitudes ( $\beta = 0.212$ ). This demonstrates that external technological preparedness access to the digital infrastructure, tools and skills proves as the influential factor on the quality of the program implementation.

Simultaneously, the out-of-college model demonstrates a critical limitation social factors have a sufficient negative effect ( $\beta = 0.344$ ) on the implementation in case of any technological or political assistance. It is on the other hand stronger than the in-college competencies ( $\beta = 0.157$ ) and materials ( $\beta = 0.125$ ). That is, the positive attitudes of the leadership and teachers in colleges are relevant, but students are unable to have independence because of outside social constraints. This implies that the factors external of college dictate the presence or absence of the strengths of college students in work (Tadesse et al., 2020).

In-college factors are still relevant since the human priorities in the implementation of the features are leadership and diploma graduated teacher's attitudes. However, the impact of these forces is based on external environment. As an instance, the success of an effective instructional leadership can only be complete with the political support and economic resource particularly technological infrastructure. Similarly, the society will not be in a position to encourage the positive attitudes of teachers unless societies embrace the change. Therefore, the internal forces at college level are critical but they require external enablers which are primarily technology and social setting to thrive.

Finally, extracurricular factors like technological and social categorization have the best implementation quality. The latter, in its turn, implies the necessity of considering the problem of social equity and empowerment through the success stories. It might be that the college leadership and the attitudes of the teachers might not be enough regardless of their strength. The models synthesis revealed that the implementation is under the control of the external environment in which colleges are run.

## **Technological Factors as the Main Forces**

Interestingly, the path models found that the technological factors were the best predictor of the quality of implementation ( $\beta = 0.519$ ) which can be compared to the recent studies, which have found that technology possessed a great transformative potential on education systems. Research such as the one by Tondeur et al. (2017) access to digital infrastructure, including accessible and stable internet, teaching management systems, teacher training on digital competencies are significant determinants of positive outcomes of teacher preparation programs. The study team members and Tondeur set that technological preparedness is the source of up to 40% of the variance in the program outcomes in the developing country environment, which confirms the findings of the path models. Similarly, Mseleku and Nkomo (2023) observed that a lack of IT infrastructure, including the use of obsolete equipment in teacher training institutions in South Africa, reduced the quality of the program by 3035 percent in poorly-funded areas. These results approve the models of the path that prioritize technological readiness as a factor of significance in the quality of the SNNPR teacher education colleges TPP implementation.

## **Social Factors as Constraints**

The out-of-college model ( $\beta = -0.344$ ) social factor is negative, as the empirical research reveals that social barriers are one of the influential factors to the implementation of educational reforms.  $\beta$  informs you of the direction and the strength of the relationship between an uncontrolled (kept constant here: the social factor) predictor and the outcome (kept constant here: implementation of educational reforms), other variables being held constant (when it is a multiple regression/SEM model). The social factor is negative with a beta of  $-0.344$ , which means that the more the social barrier, the less the educational reform implementation.

A case study carried out by Asfaw and Weldeyesus (2021) in Ethiopian teacher education settings determined that community resistance minimized the success of the program (Asfaw and Weldeyesus, 2021). This is in line with the path models where other social priorities and community resistance may endanger the effectiveness of the program. In the Global Education

Monitoring Report conducted by UNESCO (2022), social phenomenon like gender norms and socio-economic status are again stated as the factors hindering the application of proper teacher training programs in Sub-Saharan Africa, which outweighs the internal strength of the institutions.

### **Leadership and Teacher Attitudes**

The findings of path models on the in-college variables as an instructional leadership ( $\beta = 0.313$ ) and diploma teacher attitudes ( $\beta = 0.212$ ) are similar to the researches that highlighted the importance of human capital as they examine educational success. According to Bush and Glover (2020), instructional leadership is among the essential aspects of teacher preparation programs. A meta-analysis was used by the researchers, and the study revealed that strong leadership enhanced the quality of implementation by 20-25% (Bush and Glover, 2020). They also note that such a leadership can only work when sufficient external funding and policy support is provided and this is very similar to how the path models had indicated that in-college factors would only work when external forces are favorable enough. Similarly, research by Teshome (2012) in Ethiopian colleges concluded that a positive attitude of teachers towards new methods increased the implementation rate 15-20 times, but in many cases, it was destroyed by external factors, including the lack of provision of educational resources or social outlook towards the profession. This implication justifies the current study that demonstrated that the in-college factors are significant but not as strong as the exogenous forces of the lives of assistants.

### **Political and Economic Factors**

The path models' emphasis on the broad external environment (political and economic factors) of a company is supported by recent studies. For example, the 2023 UNESCO report on education systems in sub-Saharan Africa suggests that political support factors (policy coherence, government funding) explain 30–35% of the variance in teacher training program outcomes. In SNNPR, where resources are limited due to the economic constraints, it is reasonable that path models suggested that economic resources in other domains are needed to capitalize on one's strengths in college. Additionally, Bekele and Darabi (2022) established

that political instability in Ethiopia impedes the successful implementation of teacher education programs because it affects funding.

#### **4.1.5. Synthesis and Implications**

It is supported by the literature that TPP implementation quality is determined decisively by external factors, including technology and social factors. Research indicates that technological set up is a condition and that social barriers should be overcome in effort to optimize their impacts. The in-college variables like the instructional leadership and the graduated teacher attitudes cannot exist without being supported by extrinsic factors. According to UNESCO (2023), multilevel strategies are necessary to apply the policies related to technology, and this requires the investments in infrastructure and community programs. These conclusions justify the necessity of a systemic way of handling the problem in SNNPR education colleges, such as investing in digital technologies, professional growth, and cultural integration programs to overcome social resistance.

To sum up, this section presents the quantitative data from the initial stage of a mixed-methods research study on the perception of Teacher Preparation Program (TPP) implementation quality among SNNPR colleges of teacher education. The 294 participants were analyzed, and the results showed significant demographic features of participants: the largest percentage was among instructors (56.1), and the largest number of participants had ages 35-45 (45.6). More importantly, the unequal representation across colleges and departments creates a possibility of sampling bias, which requires one to be careful in generalizing the findings, which can be limited using methodological safety measures.

Validation Instrument validation Structural Equation Modeling was used to establish strong psychometric properties with Cronbach's alpha coefficients (0.775-0.923), confirming high internal consistency and Average Variance Extracted ( $AVE \geq 0.50$ ), confirming convergent validity. Furthermore, the quantitative results indicate that Teacher Preparation Program (TPP) implementation measurement model is statistically valid and conceptually sound. In Table 9, the values of HTMT are between 0.075 and 0.697, which is well under the suggested 0.85 mark. This trend is good evidence of discriminant validity and suggests that the institutional

and contextual constructs are empirically different and measure different, but related, dimensions of TPP implementation.

ANOVA analysis showed no significant differences in the perceptions of the participant groups ( $F=1.194$ ,  $p=0.252$ ) or colleges ( $F=0.926$ ,  $p=0.561$ ), indicating that there are no significant differences in the perceptions of the implementation factors regardless of the demographic variance in the participants.

Path analysis clarified two significant relationships. First, in-college factors were found to be the strongest direct predictors of the implementation quality (accounting for 35.5% of variance), and instructional leadership ( $\beta =0.313$ ,  $p<0.01$ ) and teacher attitudes ( $\beta =0.212$ ,  $p<0.05$ ) proved to have the greatest impact. Second, PEST factors (political, economic, social, technological) had a more direct and less impact (35.4% variance) yet had complete mediation by in-college variables ( $R^2=0.341$ ). Technology was positively related ( $\beta =0.519$ ), and the social factors negatively impeded the implementation ( $\beta =-0.344$ ). Leadership is the strongest mediator ( $\beta =0.281$ ), which means that institutional actors cushion the external factors.

The following quantitative results raise three ambiguous issues, which need to be addressed by qualitative research: (1) The way instructional leadership mediates the effect of technological preparedness, (2) The contextual determinants of the negative effect of social factors, and (3) The inconsistency between homogenous perceptions and uneven distribution of the demographic. The following questions reflect directly on the further qualitative stage interview guidelines and document analysis scheme.

The cross-sectional setting does not allow one to make causal conclusions, sampling restrictions do not allow generalizing the results to the population, and the bias of omitted variables is also a possibility despite the strict performance of SEM validation. Triangulation of qualitative data will be used to minimize these limitations (Creswell & Plano Clark, 2017; Hair et al., 2021).

## 4.2. Qualitative Phase

### 4.2.1. Interview (data collection method)

This stage of the research involved qualitative information in order to offer more insight and contextual clarification on the quantitative results. The study also used explanatory sequential mixed methods design in order to make the results both valid and comprehensive (Creswell, 2009). In this design, the quantitative data was collected, analyzed. As a result, the qualitative data were processed on the basis of the quantitative one and the findings are provided in this chapter.

#### Sampling Procedure and interview participants

A total of 20 individuals were then sampled in the second phase out of the participants admitted to have been part of the quantitative stage. These consisted of 8 instructional leaders, 8 college instructors, and 4 diploma graduate teachers who were the representatives of four Colleges of Teacher Education (A, D, H, and B). Table 11 illustrates the distribution of the participants.

*Table 13: Interview Respondents by Colleges of Teacher Education*

College of Teacher Education	College Instructional Leaders	College Instructors	Diploma Graduate Teachers
College A	2	2	1
College D	2	2	1
College H	2	2	1
College B	2	2	1
<b>Total Participants</b>	<b>8</b>	<b>8</b>	<b>4</b>

The use of purposeful sampling strategy in selecting the participants is suitable in explanatory sequential designs (Creswell and Plano Clark, 2023). The qualitative sample was selected on purpose among the quantitative respondents because the pool was rich in representation of a wide variety of institutional role and experiences applicable to implementation. Participants were sampled in accordance with the potential to provide the rich, contextually based explanations of the observed quantitative findings

## **Reasons behind Qualitative Following and Participation**

The qualitative stage was aimed at offering contextual explanations of two main findings of the quantitative stage: (a) the surprisingly strong role of external (PEST) factors on the quality of program implementation, and (b) the comparatively low role of internal (in-college) factors.

In order to obtain a diversity of views, a purposive selection of 20 participants was done among those who took part in the quantitative study. It consisted of 8 instructional leaders, 8 college instructors, and 4 diploma graduate teachers who were selected in four Colleges of Teacher Education (A, D, H and B). Intentional diversity was used to include institutional leaders who had experience in making a decision, instructors who participated in curriculum implementation, and recent graduates who had firsthand experience of program outcomes.

The sample composition was not quite balanced; however, the equalization of administrative and instructional voices was taken first as it will help more to learn about the institutional processes and external forces. The fewer number of diploma graduates provided reflective options available at the practitioner level, which could be triangulated between the views of the stakeholders.

The disproportionality of the groups (8 leaders, 8 instructors, 4 graduates) was pre-planned to provide the representation of various groups that are interests of the study and to make the groups small enough to be manageable and deep enough to be analyzed qualitatively. Since there is more difference in administrative and instructional views than diploma graduate experiences, a higher percentage of institutional participants were found suitable in answering the primary research questions.

## **Sources of Data and Relevance**

The qualitative interview protocol and document review checklist were developed using four points. These points were adjusted to the quantitative results and theoretical framework to be able to integrate the results coherently.

### **Capacity and Constraints in the institutions**

The lack of teaching material, inadequate infrastructure and professional development was always highlighted by the stakeholders as a problem that restrained the ability to implement the curriculum effectively. This theme gives background to the extremely low statistical impact of internal college conditions and that explains the limitation of their potential impacts by the systemic constraints.

### **PEST External (PEST) Domination**

There were political changes, unstable funding, inflation, and attitudes of the society about teaching profession noted by the participants as the significant factor that shaped the implementation of TPP. Such technological problems as poor digital capability and insufficient resources to e-learn were also seen as innovation obstacles.

### **Weak Mediation through Internal Factor**

Although participants acknowledged attempts by college leaders and instructors to change within their companies, they said that institutional changes are usually reactive, as opposed to being strategic. External conditions often circumvent internal processes, which is why the statistical mediation effects were poor.

### **Disconnection and Adaptation Strategies of Policy Practice**

This theme showed the failures of policy dreams to be transferred into practical improvements because of the lack of fit between the strategies of governments and the realities of their institutions. Nonetheless, there were also adaptive practices that were created like local collaboration and informal mentorship to get program implementation surviving on the constraint.

The data were collected using semi-structured interviews with the participants who were selected and the document analysis of the national and regional documents on education policy, teacher education policy strategies, and the institutional reports. This was aimed at

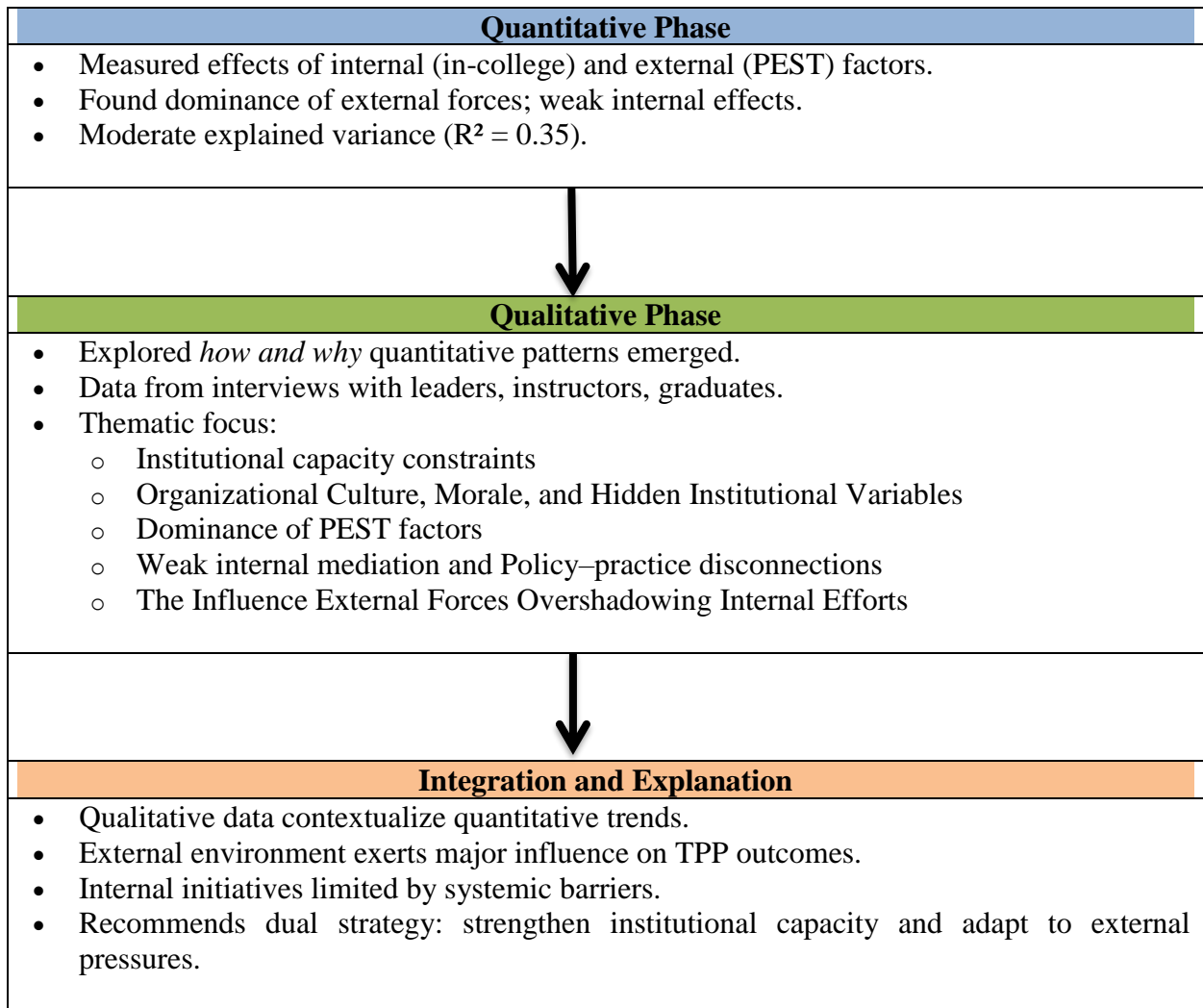
finding explanatory stories that could be used to explain the observed statistical relationships during the quantitative phase especially those that show surprising or counter intuitive tendencies like the overbearing effect of the external environment compared to the internal college factors.

### **Quantitative-Qualitative Explanatory Flowchart Visualization of the Explanatory Link**

The research design in the study was explanatory sequential mixed-methods design, whereby quantitative analysis was supplemented by qualitative inquiry to explain and put the numbers into context. The qualitative stage did not simply recreate the quantitative findings but clarified, elaborated and enlightened them using the understanding gained in the interviews and document reviews.

The following flow chart represents the way in which the quantitative findings (for example, prevailing external PEST factors, weak internal mediation, moderate explained variance,  $R^2 = 0.35$ ) made the qualitative question and following interpretations. The qualitative explanations were based on the lived experiences of the participants who were academic deans, program officers, department heads, instructors, and diploma graduate teachers of Colleges A, B, D, and H.

By integrating such evidence, the study connects the contextual narratives with empirical evidence to identify the interaction between external forces and the internal forces in the college to influence Teacher Preparation Program (TPP) implementation. This synthesis reinforced the fact that the enhancement of the quality of TPP needs institutional reform in conjunction with systemic responsiveness to wider socio-political and technological realities.



**Figure 9:** Flowchart Visualization of Quantitative–Qualitative Explanatory Process

*Source: Developed by the researcher based on integrated quantitative–qualitative analysis (2025).*

### **Qualitative Results: Thematic Interpretation and Integration**

The qualitative part of this research aimed at contextualizing and describing the unforeseen trends projected on the quantitative information in the form of the thematic analysis of the interviews and supplementary materials. The process of familiarization with the six phases of the framework of Braun and Clarke (2006) followed by coding, theme generation, theme

review, theme definition, and narrative reporting enabled the analysis to create a delicate insight into the influence of the forces, both internal (in-college) and external (out-of-college) on Teacher Preparation Program (TPP) implementation in SNNPR.

The voice of the researcher in this part shifts slightly out of reporting what the stakeholders say and interpreting the same within the institutional and socio-political situation in Ethiopian Colleges of Teacher Education. There were five major themes that were identified to relate directly to the quantitative results:

### **Theme 1 Structural Resource Gaps and Instructional Competency Constraints**

(Reports Quantitative Result: Minimal importance of internal college conditions)

The process of data analysis started with familiarization where I transcribed the interviews and then subsequently read the interviews several times in order to get in the data. After that, I proceeded to the production of starting codes. I coded using NVivo, and the initial segments with reference to resource challenges were 150. Subsequently, during the theme seeking process, the first codes were organized into larger themes, e.g. Physical Infrastructure and Teacher Training. Lastly, when going over the themes, I also explored the logical connections between these categories. The increased use of this analysis made it clear that the absence of physical resources (Structural Gaps) was the direct cause of the inability of the teachers to perform (Competency Constraints), which eventually resulted in the eventual merge of the two initial themes (Theme 1).

Although the quantitative outcomes showed that the internal college circumstances were not of great impact on the quality of TPP implementation, the qualitative analysis reveals the systemic and structural nature of the causes of the given pattern. In Colleges A, B, D, and H, interviewees were asked to comment on intractable lack of infrastructure, teaching resources, and teacher proficiency, which together curtail quality implementation of curriculum.

Poor academic backgrounds of recruits and the lack of teaching materials hinder the implementation of high-quality education, as noted by the Head of the Language Department

of College A. Likewise, a Mathematics Head at College B stated that, 'practitioner competence would not support content integration. These issues were echoed by diploma graduate teachers who explained lack of laboratory chemicals, computers and sports equipment.

But these are not solitary grievances that they attribute to a lack of equity in the distribution of resources. The institutional facts of these colleges demonstrate strata of limitation: an outmoded pedagogical setting, professional growth, and a curriculum that is too abstract in its practice. College H is one department where a leader enrolled in the course expressed a concern that there are practical and theoretical aspects in the curricula, but in real life, they are too theoretical, and we are using old-fashioned methods.

These stories demonstrate that failure in implementation is not a result of indifference or personal ineptitude, but instead a lack of resources, as educational ecology, which limits innovation and involvement. The lack of proper materials, the inappropriateness of theory and practice, and the institutional lack of support are all elements of the systemic barrier impeding effective delivery of the curriculum.

This theme discloses that the inputs at the college level (competencies, materials, and infrastructure) are underdeveloped to mediate the external pressures. The little influence as noted quantitatively is therefore not insignificant of the internal factors but structural incapacitation.

These were also supported by document analysis. The policy reviews and inspection reports have reported on numerous occasions, the inconsistent allocation of resources and outdated equipment in colleges of teacher education. The trend, as explained by Worku (2025), illustrates the ways in which institutional inertia and lack of resources are strengthening unequal learning conditions, especially among disadvantaged learners in the rural catchments.

## **Theme 2: Culture, Morale and Institutional Hidden Variables Organizational**

A number of the participants have narrated the institutional culture problems intrinsic to institutional culture that tend to expose collaboration in teaching as well as professional

motivation. These un-quantified or tacit variables were also brought out strongly under related discussion.

According to an instructional leader of College D, he stated:

*“Morale is affected by the presence of organizational culture, i.e. good collaboration or government interference. Corruption, opinionated hiring and lack of professional development over obstruct the teachers; not many of them are encouraged to work internally.”*

Such an outlook extends the definition of the internal conditions beyond materials and competencies. It also brings about institutional climate and culture as the latent forces that influence the quality of program implementation. The stories of participants indicate that morale, fairness, trust, and integrity of leadership are core issues to the quality of education, although they may not be quantified.

In this case, the researcher regards such concepts as sub-elements of an even larger de-motivational institutional ethos. In a politicized environment of promotions, lack of professional growth, and low morale, the level of implementation is bound to be compromised. The phenomenon suggests that organizational trust, ethical governance is invisible, but decisive internal conditions, which mediate the rest.

### **Theme 3: The Pressure of the External World and the Preeminence of the PEST Factors**

(Elucidates Quantitative Discovery: Strong influences of exogenous social and technological factors)

Another common theme that is found in institutions is that they feel that the external political, economic, social, and technological forces are hegemonic in determining the quality of programs. The members of the group always linked these external forces with the reduction of institutional autonomy and the weakening of professional agency.

The Academic Dean of the College of D has remarked: Political and economic pressures imply that the government is required to reduce funds, including the integration of technology.

Equally, College D and H teachers decried that top-down ministry assignments are unsuccessful because of the absence of communication, training, and resources. College A Diploma graduates reported that they were demotivated and had damaged self-esteem due to social undervaluation by teachers and low salary.

On the technological front, it was found that both the instructors and the graduates identified chronic ICT shortcomings, namely non-functional computers, lack of reliability in connectivity and Power failure. In summary, the Leader of College B explained:

Digital Ethiopia 2025 aims to increase connectivity and digitize the public services, but poor infrastructure slows down the delivery. The problem of uneven network coverage, low service quality, and unreliable electricity can make platforms inaccessible and force citizens and offices to go back to paper, and decrease trust. Poor local data center capacity, ineffective redundancy, and expensive hosting add to downtime, whereas costly equipment and information add to digital inequality.

These testimonies bring into view what the quantitative data in numeric form revealed: external dependencies prevail in college operations. Opportunities and constraints are structured in the PEST-environment, in particular, both in social and technological contexts. Although the policy language (Digital Ethiopia 2025, institutional reform) is an assurance of modernization, the practice of the participants reveals the shallow reforms without the fundamental empowerment of the systems.

This level of interpretation goes beyond saying that PEST factors are important; it demonstrates why and how they enter into institutional practice. Low motivation and incomplete implementation of reforms take place because of the interaction of economic pragmatism, technological inadequacy, and social under-valuation of the profession. In that regard, external variables do not just have some impact on the quality of programs; they give the field within which internal circumstances are applied.

#### **Theme 4: Weak Mediation and the Broken Bridge between Policy and Practice.**

By means of it, the researcher can explain a moderate level of strong or partial mediation, whereby the explained variance is moderate.

A critical finding is that internal institutional strengths (such as staff commitment or curriculum design) fail to mediate external pressures. This indicates that the policy-practice nexus is obstructed by structural 'bottlenecks', specifically, the lack of financial autonomy and the persistence of traditional socio-cultural norms which prevent even well-designed internal policies from reaching the classroom level.

College H teachers stated that they were discouraged by political instability, and an instructional leader of College B confessed that administrative biases should not hinder performance. One of the College D heads had mentioned a lack of equipment and a depressing environment that discourages open conversation.

These descriptions demonstrate that the internal processes (leadership, policy implementation) are not independent and consistent when they are subjected to constant external limitations. As a matter of fact, institutional actors are in a reactive mode, as opposed to an adaptive one. Collective innovation is demotivated by professional demotivation and administrative bias, and by resource scarcity, agency.

In theoretical terms, this theme indicates partial mediation: internal variables cushion against all the external volatility and the quantitative variance ( $R^2 = 0.35$ ) is only partially explained. What are not well understood are these rich contextual operations, political variations, bureaucracies, and dynamics associated with morale that cannot be readily measured.

#### **Theme 5: The Momentum of External Forces of Hierarchy upon Internal Efforts**

(Describes Quantitative Result: PEST influences relatively more than in-college influences)

Interviews conducted in institutions indicate that they all agree that external (out-of-college) factors have the greatest overall impact on program performance. One of the Program Officers of College D said in a short sentence:

The reason is that, according to the research, policy intentions are blocked by external PEST factors and influence budget allocation and reform efforts.

Diploma graduates were told that their professional identity and motivation could be enhanced only when the basic conditions were stable, that is, adequate salary, respect, and resources, but the internal curriculum innovations could bring little encouragement.

This is the last theme that combines the entire data set: external systemic forces overwhelm internal capabilities. The interrelation hierarchy that is manifested in the data provides that TPP performance is not entirely institutional but is ecological, which is a result of the interaction of policy, economy, technology, and social valuation.

The results indicate, therefore, a subtle conceptual framework:

Outside PEST conditions build up or put down macro-conditions.

Internal institutional factors are put to mediate, but are structurally weak.

The quality of implementation is the product of their interaction, moderated by morale, organizational culture, and resources.

#### **4.2.2. Document Analysis (data collection method)**

The analysis of the document shows that national policy frameworks like the Federal Democratic Republic of Ethiopia (EETP) (2025), Federal Democratic Republic of Ethiopia. (2023 ), Ethiopian Education Roadmap (2018), Education Sector Development Program VI (ESDP VI, 2020/21-2024/25) and Federal Democratic Republic of Ethiopia(2025) have coherent visions of improving Teacher Preparation Programs (TPPs). A deeper analysis however shows that there are significant disparities in the expectation of the policy and the

way it is implemented in the teacher education colleges. This updated analysis goes beyond the summary of policy content and looks at how these documents respond to institutional realities, where they are contradictory to practice, and how they contribute to elucidating the quantitative results (forexample, weak internal effects, preeminence of PEST factors, and small explained variance,  $R^2 = 0.35$ ).

### **Minimal Internal College Control in TPP Quality**

A major quantitative result was that the internal college factors like competence in curriculum implementation, instructional resources and infrastructure did not have much influence over the quality of TPP implementation. This is not how the policy documents are assumed: both the Education and Training Policy (2023) and MoE (2018) state that the core of the quality of the program lies in competent instructors with high pedagogical skills. This assumption however breaks down in practice.

The competency of instructors is emphasized in policy documents, although they fail to realize two systemic constraints that have been noted over and over both in the literature and through interviews:

**Shortage of resources:** ESDP VI is conscious of severe shortage in laboratories, libraries, teaching modules and ICT facilities. These deficits have been continuing year after year, so the internal conditions cannot be meaningful levers of quality.

**Skill-practice mismatch:** According to Tesfaye (2014), there have been consistent gaps of pedagogical skill and professional devotion in teacher educators. The policies presuppose the ability yet colleges experience the shortage of staff, overworking of teachers, and the lack of professional development.

These are the weaknesses behind the weak statistical effects of internal variables which are theoretically central. These issues were further clarified by interview data. As an illustration, a teacher in a particular college observed that the majority of the teaching materials were shared, old or even non-operational making it difficult to deliver the curriculum as expected. Another

student instructor also answered that despite policies focusing on learner centered approaches, training lack and the large class sizes are driving everyone back to lecture based instruction.

These statements show what the quantitative model failed to measure internal conditions are structurally restrained, and their practical impact is less significant than policy assumptions.

### **Embossing Effects of PEST Factors**

Political, economic, social, and technological pressures are always described in documents, though usually in form of challenges to be overcome and not structural conditions that exist. The quantitative results indicated that the PEST factors are much more significant than internal factors. The review of the documents and interview data explains why:

Economic forces: Salaries of teachers are low, teaching budgets are low, and being chronic underscoring teaching as a last-choice occupation (Befkadu & Dejene, 2017). This was affirmed by some interviewees who said that students get into TPPs as they have no other alternatives.

Social perceptions: The Ethiopian Education Roadmap (2018) addresses the problem of cultural devaluation of teaching. This theme was echoed by the interviewees where one teacher said that the teaching profession was revered but not either socially or economically.

Issues of technological limitation vs. ambitions Federal Democratic Republic of Ethiopia (2025) and ICT in Education Policy (2009) also favor digital transformation. Colleges however complain of impractical electricity, non-working computers and little digital training. Digital tools as one of the teachers referred to them exist in policy, rather than in classrooms.

Political and administrative forces: Centralized instructions and bureaucratic inefficiencies restrict institutional freedom. Other leaders claimed that policy initiatives come in formless, un-consulted, and unprepared policies, which deter implementation.

Succinctly, the PEST factors outweigh the internal college conditions since they determine the context in which the colleges are situated, and most of the times, even the internal efforts become constrained or nullified.

### **The External Pressures Weakly Mediated by Internal Conditions**

Quantitative findings supported weak or partial mediation: internal college factors could not help to mediate the effect of the external pressures on TPP quality. The analysis of the document describes the reasons why mediation was restrained:

Policies presume that the external factors were mediated by enhancing the skills and institutional culture of the instructors. As a matter of fact, there are long-term shortages, bureaucracy, and irregular professional progressions, which constrain the ability of colleges to be responsive to external pressures. The interviews showed that the internal processes are further weakened by unpredictable situations like political instability or interference by administration.

This is in line with the argument presented by Mihiretie (2023) that a lot of contextual factors are too powerful to be quantified in quantitative models. These are teacher morale, perceived social respect, unrecorded administrative practices and informal institutional norms that have been known as hidden variables in this study and are directly interpreted as influencing motivation and behavior, but are not measured using the structured instruments.

### **Internal/ External Dominance**

Both document analysis and findings of interviews show that the quality of TPP implementation is the most affected by the external conditions. Despite the vision of policy structures of digitally enabled, student-centered programs, practical constraints of underinvestment, bad social assessment of teaching, and technological shortfall that continues to dominate internal initiative always. This concurs with academic findings (forexample, Tesfaye, 2014) that Ethiopian teacher education reforms tend to give more emphasis to

structural design leaving contextual realities aside, which results in gaps in the implementation of PPT.

Notably, not every single interviewee shared the same view on the level of external dominance fully. Some of the areas that improved according to some instructors included more short-term training opportunities or more coordination with regional education bureaus. Nevertheless, they were termed as isolated but not systemic improvements which further Support the overall conclusion.

To sum up, the qualitative research findings suggest that the implementation of the Teacher Preparation Program (TPP) in SNNPR colleges appears to be substantially shaped by external PEST (Political, Economic, Social, and Technological) forces, particularly social and technological pressures, rather than by internal college conditions alone. Interviewees, including deans, instructors, and program coordinators, vividly described how these external dynamics manifest in daily challenges: for instance, one instructor recounted the frustration of navigating outdated curricula amid rapid technological advancements in education, while another highlighted the societal stigma attached to teaching as a profession, which discourages talented individuals from entering the field and erodes motivation among current educators. Although internal factors such as instructor competencies, teaching resources, infrastructure, and policy frameworks are recognized as essential, the data from interviews and document analysis reveal how systemic barriers, including chronic underfunding, political constraints, socio-cultural devaluation of teaching, and inadequate technological integration, undermine these elements and limit their potential mediating role.

This interplay helps illuminate the 65% unexplained variance from the quantitative model ( $R^2 = 0.35$ ), where internal variables appeared statistically insignificant not due to inherent irrelevance, but because of intertwined hidden factors. These include pervasive low morale among staff, stemming from unaddressed workload pressures and lack of recognition; entrenched organizational culture issues, such as resistance to change driven by hierarchical structures; and governmental interference that prioritizes compliance over innovation. By structuring these as interconnected layers personal (forexample, morale), institutional

(forexample, culture), and external (forexample, policy interference) the qualitative phase provides a nuanced framework for understanding why internal initiatives often falter, adding depth beyond the quantitative correlations and revealing the human toll, such as educators feeling "trapped in a system that doesn't value us," as one participant expressed.

These insights underscore the need for TPP implementation strategies that address not only college-level capacities but also broader systemic and contextual barriers, potentially through equitable resource allocation, targeted professional development, and reforms to elevate the social and economic status of teaching in Ethiopia. This sets the stage for Chapter Six, which will discuss the study's key findings, including the tensions between policy ideals and on-the-ground realities, the role of hidden variables in perpetuating implementation gaps, and recommendations for bridging quantitative patterns with qualitative lived experiences to foster more effective educational reforms.

### **4.3. Discussion**

The chapter has interpreted the key findings of the study by integrating quantitative findings with qualitative evidence based on interviews and analysis of documents. The intention is not to paraphrase statistical numbers but unravel the meaning, investigate the causes and correlate it to the prevailing literature on teacher preparation in Ethiopia and other similar situations in other countries. The text has been discussed in four organizing themes in conjunction with the research questions.

Teacher preparation programs (TPPs) are an essential factor that defines the overall quality of education because of a complicated combination of internal and external factors. Despite the vast amount of literature on such influences, no comprehensive integrated study has been done to combine quantitative and qualitative data especially in Ethiopian contexts. This study fills this gap by synthesis between quantitative findings gained by analysis of path modeling and qualitative information gained by analysis of documents and interviews with the research participants. It gives a clear overview of the factors affecting the implementation of TPP in Southern Nations, Nationalities, and Peoples Region (SNNPR) of Ethiopia. In particular, it is found that the in-college factors, such as the competencies of the instructors in the curriculum

implementation, attitudes of the diploma-graduate teachers to the program and the profession, instructional leadership, and the availability of educational materials and infrastructures, have an impact on the quality of the implementation, both directly and indirectly. The combination of these datasets allows the study to describe unexplained quantitative outcomes, including the moderate predictive power of the models and the low impact of the internal variables, and point to the main areas of educational reformation, aligning with the *Consolidated Framework for Implementation Research (CFIR)* which categorizes influences into inner setting (forexample, leadership and resources) and outer setting (forexample, external policies).

### **Combined Multifaceted Analysis of the Quantitative and Qualitative Research Results on the Quality of Teacher Preparation Programs Implementation in Colleges of Teacher Education in SNNPR**

The Teacher Preparation Programs (TPP) quantitative path modeling in the Southern Nations, Nationalities, and Peoples Region (SNNPR), Ethiopia, is a multidimensional model which combines direct-effects path modeling (DEPM) and partial least squares structural equation modeling (PLS-SEM) with both qualitative data analysis (document analysis) and qualitative data (interviews). This integrated model has shown strong influences on the quality of implementation of the TPP and medium strengths of explanations through  $R^2$  of about 0.35.

These values of  $R^2$  are said to be sufficient in PLS-SEM analysis, especially in social and educational phenomena of great complexity, where it is difficult to explain all the variance. It has been noted that out-of-college PEST (political, economic, social, and technological) factors are relatively dominant to the in-college factors but unexpected results include weak internal effects, strong external influences, limited mediation, difficulty in explaining variance, and implications on education reform. The discussion is based on these findings and expands the knowledge by using the appropriate sources, empirical evidence, and methodological illumination, drawing on the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework to contextualize the stages of TPP adoption and the barriers encountered during implementation and sustainment phases.

One of the main quantitative results is that internal variables, which include the competencies of instructors in curriculum implementation, attitudes of diploma-graduated teachers to the program and profession, the delivery of educational materials and infrastructure, and competencies of instructional leadership, have less significant impact as compared to the external PEST factors. This conforms to what Aulia et al. (2025) explored by analyzing internal variables such as motivation and skills as well as external ones such as policy support and socioeconomic conditions to comprehend what they do concerning the teacher performance, consistent with Active Implementation Frameworks (AIFs) that highlight the interplay of competency drivers and external facilitators.

The external factors in PEST in the context of SNNPR have a disproportionate influence on TPP quality and include political turmoil, financial limitations in education, sociological customs on education, and technological differences in training facilities. According to Aulia et al. (2025) internal factors such as instructor's competencies can be enhanced by using the targeted training but external factors tend to sabotage the training, creating the negative outcomes. That will strike a chord with the Ethiopian situation, where the qualitative interviews have shown that participants were unhappy with externalities such as poor government funding within the region.

These lessons suggest that reforms must more focus on external systemic issues, rather than internal specific barriers. Moreover, the influence of external factors can explain the low mediation of the path models, as internal mediators (forexample, instructor's competencies) struggle to counterbalance the larger PEST effects, resulting in weakened pathways to TPP quality. In addition to this, Szell (2013) indirectly supports this view by analyzing the factors behind the achievement of students, with the external ones such as socioeconomic status (SES) and parental education usually dominating over the internal ones such as the methods of teaching. Even though Szell (2013) concentrates on students and not on the teachers, the similarity is quite clear: external effects on the education systems often overwhelm internal processes. This is similar to the findings of the current study, which shows that out-of-college PEST factors prevail in the TPP implementation, which demands both layers of intervention to

bring meaningful changes, as per the Quality Implementation Framework (QIF) which underscores the need for multi-level strategies to achieve fidelity and sustainability.

### **The perception difference in diverse groups of participants**

The findings of the ANOVA tests initially comparing the perceptions of three groups of stakeholders (instructional leaders, college instructors, and teachers who completed the diploma program) and then comparing four teacher education colleges showed that there was no significant difference in perceptions regarding factors affecting the quality of implementation of Teacher Preparation Program (TPP). Despite the fact that the differences are numerically significant, the low F-values and non-significant p-values (1.194 and 0.926) mean that the differences may show a sampling fluctuation rather than a significant group difference. The low effect sizes ( $\eta^2 = 0.088$  and  $0.070$ ) also imply that there is little practical difference in perceptions among both types of stakeholders and institutions.

The stakeholders, despite having different institutional roles, share a common interpretation of the TPP quality indicators, as indicated by the lack of significant differences in their perceptions. This result aligns with existing literature emphasizing the role of shared professional socialization and standardized accountability systems in fostering convergence in professional attitudes. Indicatively, Darling-Hammond (2021) noted that standardization of accreditation, quality assurance processes, and competency-based models across the globe has created a consistent professional epistemology among the teachers. On the same note, Thompson (2022) and Zeichner (2023) maintain that in most cases, when policy directives, institutional missions, and performance expectations are closely linked, a homogeneous professional culture tends to develop, reflecting principles from Normalization Process Theory (NPT) where collective action and cognitive participation foster embedded practices.

In this respect, the overlapping of the perceptions among the stakeholder groups and colleges may be viewed as the manifestation of the systemic alignment of the functional coherence of policy frameworks effective practices of the institutions and individual beliefs. Institutional cultures with common accountability systems and pedagogical ideologies are more likely to

instill similar perceptions among the educators, irrespective of their ranks and institutions, on the determinants of quality program implementation.

These results build upon the current body of research on the role of policy under structures and institutional integrity in collective professional cognition. Fenwick (2023) and UNESCO (2022) pointed out that frequently, the range of perceptual variance in the field of educational systems is limited by standardized teacher competencies and worldwide professional standards. Therefore, the non-statistical differences in perceptions cannot be considered the weakness, but it means some consistency and the stability of professions in terms of the implementation of teacher preparation programs.

Sociocultural, this agreement could be the result of shared professional socialization that takes place in the systems of teacher education. Faculty and instructional leaders share common ideas of good teacher preparation through such practices as common induction programs, joint assessment, and periodical audit. On the programmatic level, the results show that the problems related to the quality of TPP implementation are organizational, as opposed to group-specific. TPP quality improvement programs should target the entire program or system-wide changes instead of considering individual subgroups since all the stakeholder groups and institutions have similar perceptions. This also means that there is some fairness in the delivery of programs since no special group considers itself as benefited or not in the implementation process.

In a policy view, Assefa et al. (2021); Shanko et al. (2019); Wubshet (2018) stated the perceptual consistency is related to effective diffusion of national teacher education standards and consistent institutional compliance strategies. It also however requires qualitative follow-up research to identify the depth of perspective that quantitative analysis might not provide especially the voice of less active or underrepresented members. Complementary inquiry of this kind might answer how consensus may be maintained, contested or renegotiated in reaction to contextual disturbances including policy shifts, institutional reorganization or crisis-driven changes. Although the statistical tests did not show any significant differences, it does not mean that there are no meaningful and practical implications.

As Woldeyes (2021) warn statistical non-significance does not correspond to insignificance; instead, it raises the question of practical meaning and relevance to the contexts. The low effect sizes here indicate that the greatest portion of variance is within groups, probably due to individualized differences and not structural differences, aligning with the Diffusion of Innovation (DOI) theory by Rogers (2003) which suggests that individual adopters' perceptions influence diffusion rates within social systems.

Altogether, the compromise of perceptions between the two groups of stakeholders and institutions is the common feature that indicates a similar professional culture in the system of teacher education. Thus, reforms occurring at the level of the system must preserve this coherence and promote reflective practice, local flexibility, and comprehensive involvement of all stakeholders in a teacher preparation program to improve the overall quality and applicability of this program in the long term.

Based on this perceptual agreement, the following sections discuss the substantive reasons that contribute to the quality of TPP implementation based on regression and mediation analyses. This common view among stakeholders enhances the generalizability of these results, which can be further interpreted more strongly to show the interaction effects of internal and external factors within the system.

### **Effects of In-College Factor on the Quality of Implementation**

The in-college variables include instructional Leadership, diploma-graduated teachers' attitudes, instructors' Competencies, and resource provision. According to the in-college model, instructional leadership competencies are the most robust internal predictor of the quality of implementation, followed by the attitudes of the diploma-graduate teachers on the profession and the curriculum, curriculum implementation competencies of the instructors, and lastly the provision of materials and infrastructure.

This pecking order matters in two aspects. First, it implies that the human and relational aspects of leadership, mobilization of people, and education of teachers as to the importance of the profession and curriculum are more important than the presence of physical resources.

Second, it shows that, in the case of inadequate leadership and professional commitment, technical competency and infrastructure, though needed, are insufficient to effect a good implementation, as supported by the Active Implementation Frameworks (AIFs) which prioritize leadership as a key driver for competency and organizational change.

These findings confirm the evidence on the centrality of leadership in school and program reform all over the world. Indicatively, one can point out leadership, which, as the second-ranked school-level factor after classroom teaching, is identified to affect student outcomes (O'Connor, 2020; Spillane, 2006; Harris, 2013). Equally, the research, the MET Project (2013, cited in Sulzer, 2014), demonstrates that teacher attitudes, beliefs, and perceptions are essential parts of effective teaching along with observable competencies.

In the context of Ethiopia, Tesfaye (2014), Assefa et al. (2021), and Gebretsadik et al. (2023) place emphasis on policy and curricular loopholes, poor preparation levels, and unsuitable needs assessment in sequential reform. These organizational deficiencies probably discourage the competencies of instructors and minimize the effects of material inputs. The current results are thus in line with a longer curve where leadership and teachers' mindset have become the sole and fairly robust internal leverage to weak institutional setups, echoing the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework's emphasis on preparation and sustainment phases to address such gaps.

### **Mechanisms: What Are the Internal Processes on Implementation?**

Qualitative data enhance this picture by stating how and why internal factors work only moderately. A key role is played by instructional leadership whereby college heads and department leaders interpret national policies, structure professional development, and distribute limited resources. Nonetheless, according to the interviews, it is found that most of the leaders are restricted by the lack of autonomy, bureaucratic influence, and ineffective administrative support. This has led to leadership that is mostly reactive and compliance-oriented instead of being instructional and developmental.

Attitudes of teachers towards the profession and curriculum also have a great impact. According to the diploma graduates, teaching is often referred to as a low-status, low-paying, and last resort job, and hence, low commitment and poor interest in curriculum changes are observed. This is compatible with the Ethiopian Education Roadmap (2018) which report record declining professional motivation and high turnover.

Another important mechanism is instructor curriculum competencies, which are undermined by poor subject mastery, meager training about pedagogy, and minimal insight into the new curricular strategies, both in interviews and as indicated in the research by Wubshet (2018) and Tesfaye (2014). All these gaps complicate the process of translating policy expectations into classroom realities, despite leaders being supportive.

Lastly, there is a rampant lack of materials and infrastructure, such as the simplest of items, such as chalk, projectors, science laboratory equipment, useful libraries, and most specifically, ICT facilities. Nevertheless, the quantitative result regarding the fact that materials have a minor impact as compared to leadership and attitudes implies that resources are only so potent when there is the ability and desire to utilize them effectively (Century and Cassata, 2016), in line with the Quality Implementation Framework (QIF)'s focus on resource utilization for quality outcomes.

College relevance: The practical significance of this research is straightforward. In the case of a college dean or head of an education department, the implication of the pattern coefficients would be the practical priorities as follows.

One of the highly leveraged interventions is leadership development. Empowering department and program coordinators in the areas of instructional leadership, data-based decision-making, and change management is bound to deliver a bigger change than simply investing in more materials.

Intervention of the attitude-shaping is needed. The payoffs of implementation of mentoring, professional identity workshops, recognition systems, and establishment of clear career

pathways can be significant because this variable is more likely to be influenced as compared to material resources.

The instructor's competencies and provision of resource needs are less forceful but required. The idea of improving instructor pedagogical competencies and offering materials should be accompanied by leadership and attitude change, which will otherwise have a limited impact.

### **Effects of Out of College PEST Factor on quality implementation**

Comparison of the appeal of overall Internal and External Factors  $R^2$  values of in-college (0.355) and PEST (0.354) are very close. This insignificant number value does not warrant the argument that one prevails over the other. Rather, the two models demonstrate that the role of both internal and external factors in explaining the quality of implementation is similar.

Comparisons between patterns and the strength of individual predictors yield a more significant comparison. The positive effect of technology is great in PEST; social is a strong negative, and political and economic factors are more moderate. These outside tendencies, along with interior trajectories, make visualization where exterior conditions put limits on and stress on internal actors, as framed by the Consolidated Framework for Implementation Research (CFIR)'s outer setting constructs.

### **Technology Underutilized and High Potential**

The correlation coefficient of technological conditions with the quality of the implementation is stronger than positive and corresponds to world experience that properly implemented educational technology can enhance the quality of teaching and the coherence of the program (Desimone and Pak, 2017; Zheng et al., 2016). However, in SNNPR, a significant implementation gap can be identified with the help of qualitative data.

There is unreliable electricity, a poor internet connection, and a shortage of computers, which are reported by teachers and leaders. Practically, when it comes to the choice between traditional methods and online methods, the former is more desirable due to the issues of connectivity, as College B instructors reported. Such a contradiction potential impact of

technology and weak actual use, is an indication that once very little technological infrastructure is in place and operational, it quickly enhances implementation (Example access to digital resources, online assessment tools or communication platforms). Nonetheless, in most colleges, these bare minimum requirements are not clearly fulfilled, and limit the fulfillment of the enabling role of technology regardless of national goals like Digital Ethiopia 2025 and the ICT in Education Policy (2009), highlighting challenges in the implementation phase of the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework.

### **Political and Economic Factors: Facilitators with Limits**

The impact of politics is moderate but positive, which means that the policies, accreditation guidelines, and change initiatives tend to drive the implementation towards the positive. Nonetheless, interviews indicate that policies tend to be top-down, dynamic, and lack adequate training and resource facets. College employees often feel overwhelmed by policy stuff and implementation exhaustion, whereby new policies come at a higher rate than colleges can keep up. This resonates with Darling-Hammond (2017) and Cochran-Smith et al. (2020), who observe that high-performing systems combine ambitious policy with sustained support, decentralization, and the voice of the stakeholders, as opposed to more centralized systems, such as Ethiopia, where there is likely to be a gap between policy intention and practice.

The economic factors exhibit a lower but significant effect. What colleges can do is constrained by budget limitations, poor salaries, and inadequately funded colleges, which are well documented by the Ethiopian Education Roadmap (2018) and by Tesfaye (2014). Nevertheless, in the presence of targeted investment in the recruitment, retention, and learning resources of teachers, they seem to be able to help in an improved implementation, in accordance with Boyd et al. (2009) and Gappa et al. (2007). The moderate and not the strong effect in this research is an indication that greater money itself is not a sure way to improve implementation, but it needs to be strategically allocated and incorporated with leadership and cultural change.

### **The Negative Social Factor: A Systemic Slows down Implementation**

Among the most impressive ones is the high negative impact of social factors on implementation. This includes low social esteem about teaching, in which teaching is viewed as a low-status, last-resort career; discouraging economic-cultural paradoxes, where teachers are not only culturally respected in discourse (forexample, religiously revered) but are also economically marginalized; and cultural and ethnic complications in SNNPR, such as language politics and identity issues (Cohen, 2000; Degaga & Mekuria, 2023; Setegn, 2019).

Mechanically, these social processes are damaging to implementation in colleges in several ways: Discouraging new entrants and employees. In case teaching becomes a second-choice occupation, many new entrants come in with low intrinsic motivation, which has a negative effect on the capacity to take part in intensive training. Loss of career: Ongoing negative talk about teaching undermines professional pride and commitment, and it is even harder to create reflective and committed professionals in colleges. Inequalities in recruitment and participation: It is possible that cultural and ethnic discrimination affects recruitment and promotion, and this leads to a lack of trust and cooperation. Innovation deficiency: There may be a deficiency in the application of student-centered pedagogies or technology-enabled practices because of a lack of innovation in social practices that promote traditional lecturing or hierarchical power, as explained by the Diffusion of Innovation (DOI) theory in terms of social system barriers to adoption.

This way, negative social factors can help balance other beneficial political, economic, and technological impacts. A supportive policy and limited resources do not ensure that an ambitious implementation takes place: an unfriendly or indifferent social environment can make it less likely, as Cochran-Smith et al. (2020) emphasize regarding the social embeddedness of teacher learning and professional development.

### **Mediation: Why do only weak influences of PEST pass through in-college factors?**

The mediation analysis indicates that in-college variables, leadership, teacher attitudes, materials, and teacher competencies, do mediate the impact of PEST variables on the quality of implementation, but that mediated effects are insignificant, and the overall share of variance is not large.

### **The Leadership as the Primary Mediator**

The most pronounced mediation effect between the internal variables is instructional leadership, which confirms ecological and distributed leadership models (Desimone, 2009; Ergado et al., 2021; Harris, 2013; Spillane, 2006). Leaders also serve as one of the key translators of external policies to internal practices, which serve the concept of reflexive monitoring as a part of the practice adaptation in the framework of the Normalization Process Theory (Desimone, 2009).

Nonetheless, qualitative evidence offers the reason as to why the mediating role of leadership is limited. Leaders act in an environment of political insecurity and change of orders and administration. They also do not have the capacity to make appropriate decisions and resources to match external demands with local realities. In addition, the preparation of some leaders in instructional leadership and change management is also limited. Therefore, leadership is not failing because it is insignificant; rather, it is being overwhelmed and not supported. The political, economic, and social pressure is requested to be buffered by the leaders with minimal institutional power and professional training.

### **Attitudes of teachers against External Pressure**

The PEST influences are also mediated by teacher attitudes to the profession and curriculum, although to a moderate extent. According to interviews, good mentorship, supportive leadership, and meaningful practice opportunities are some of the factors that nurture positive attitudes. However, low wages, unpredictable political situations, and a bad perception of the society of the teaching profession gradually ruin these sentiments. This means that the mediation effect of teacher attitudes is weak attitudinal gains that have been made in the college are often invalidated by outside forces. This is one of the reasons why internal variables do not mediate the PEST effects fully.

## **Resources and Curriculum Competencies: Dependent Mediators**

The least mediation effects are in the provision of materials and instructor curriculum competencies. This is partly due to the fact that provision of materials in itself will require external economic and political determination; colleges alone cannot guarantee constant availability of ICT, laboratories, or libraries. In the same way, long-term policy and curricular histories influence teacher competencies, such as previous reforms, which were not supported by an appropriate needs assessment (Gebretsadik et al., 2023). These are variables that are therefore downstream of PEST conditions; they cannot independently significantly mediate external forces since they are products of the same.

### **4.4. Chapter Summary**

This chapter reflects a qualitative-quantitative research study of the quality of Teacher Preparation Program implementation in the SNNPR Colleges of Teacher Education. The results indicate that although the in-college variables, especially instructional leadership and attitudes of teachers who have graduated from their diploma programs, do have significant effects on the quality of the programs, they are overridden by the external forces of PEST. The most positive force is determined as the technological preparedness, and negative societal attitudes towards the teaching occupation as a low-status one become a significant obstacle.

The analytical findings demonstrate that the explanatory capacity of both in-college and out-of-college models is almost similar, which means that all difficulties in implementation are systemic and not unique to certain situations and roles. The research finds that there must be a radical change in interventions that focus on colleges to multi-level interventions. These reforms can be directed towards massive investments in the technological infrastructure, plans to hedge against political and economic instability, and national campaigns to improve the social status and economic worth of the teaching profession. Without such efforts, internal developments, including leadership and attitudinal developments will be limited.

Moreover, qualitative data confirm that Teacher Preparation Programs' quality is constrained not only by its own flaws but also by the overwhelming external issues, of which the most famous are the devaluation of the teaching profession and the constant lack of technology. Instructional leadership and the attitudes of teachers are also important internal levers, but are operating in a fractured policy-practice bridge that is undermined by such factors as chronic underfunding and low institutional morale.

Congruence of the stakeholders refers to a shared perception of these systemic issues, and not apathy. In that regard, a successful reformation would entail leaving single-minded efforts to overall directions to improve the position of the teaching profession, create fair technological spending, and reform policy procedures to achieve real institutional autonomy. The multifaceted approaches are the only way through which colleges can realize all their resources to produce dedicated and qualified teachers for the future of Ethiopia.

## CHAPTER FIVE

### SUMMARY, MAJOR FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

#### **INTRODUCTION**

The chapter summarizes the study's critical findings, provides their interpretation, and outlines policy, practice, and future research implications. It is divided into four main parts: (1) Summary of the study (2) Major findings (3) Conclusions (4) Recommendations and future directions of research. The discussion relates the findings to the initial issue of practice and emphasizes the importance of the findings in enhancing the implementation quality of Teacher Preparation Programs (TPPs) in the SNNPR region.

The chapter also synthesis of the main findings that investigated the factors that determine the quality of Teacher Preparation Program (TPP) implementation in the Colleges of Teacher Education in the Southern Nations, Nationalities, and Peoples region (SNNPR) of Ethiopia. The study used a sequential explanatory design, combining quantitative data from a survey of 294 participants (instructional leaders, college instructors, and diploma graduates), qualitative data from semi-structured interviews of 20 purposely chosen respondents, and analysis of national and regional education policies documents.

Quantitative techniques such as Structural Equation Modeling (SEM), ANOVA, and path analysis confirmed the reliability and validity of the instrument (Cronbach's alpha: 0.775-0.923; AVE  $\geq$  0.50; HTMT  $<$  0.85) and also showed moderate explanatory power ( $R^2 = 0.35$  in both in-college and out-of-college models). There were no substantial differences in perceptions between representative groups of participants ( $F = 1.194$ ,  $p = 0.252$ ) or between colleges ( $F = 0.926$ ,  $p = 0.561$ ), which shows common perceptions regarding the factors of implementation. Path analyses revealed the conventional impacts of the in-college factors (forexample, instructional leadership,  $\beta = 0.313$ ) and out-of-college PEST factors (forexample, technology,  $\beta = 0.519$ ; social factors,  $\beta = -0.344$ ) and weak mediation by internal factors.

These trends were explained by qualitative data through five themes, which included structural resource gaps, organizational culture and morale, PEST dominance, weak policy-practice mediation, and external forces that override internal endeavors. The policy ambitions (forexample, competency-based curricula) were confirmed through the analysis of documents, but showed the gap in the implementation as a result of the chronic underfunding and the socio-cultural obstacles. All the results point to the fact that the quality of TPP is largely influenced by external systemic factors that restrict the effectiveness of internal capacities, which is why most of the unexplained variance in the models is 65 percent. The statistical model accounted for 35% of the variance, leaving a significant 65% unexplained. This high level of residual variance underscores the limitations of relying solely on internal institutional data. By integrating the qualitative themes, particularly the 'external forces that override internal endeavors,' this study provides a more holistic view, suggesting that the 'missing' 65% of the model is likely influenced by the broader socio-political and systemic constraints identified during the thematic analysis. This combined strategy offers a one-stop view of TPP dilemmas, which is the synthesis of statistical data and contextual accounts.

## 5.1. Major Findings

The results of the study are obtained after the triangulation of data sources, which include survey responses, SEM/path analysis, ANOVA test, interviews, and reviewing documents. The main findings are grouped into the objectives or basic research questions and stages of research.

### 5.1.1. Findings on the quantitative phase

**Perceptual Differences:** ANOVA showed no significant differences in how the research participant groups ( $F = 1.194$ ,  $p = 0.252$ ,  $\eta^2 = 0.088$ ) or colleges ( $F = 0.926$ ,  $p = 0.561$ ,  $\eta^2 = 0.070$ ) perceived the TPP implementation factors, which indicates that there are common professional epistemologies under the influence of standardized policies and institutional cultures.

**Effects of In-College Factors:** Path analysis ( $R^2 = 0.355$ ) indicated that instructional leadership ( $\beta = 0.313$ ) and attitudes of diploma graduates ( $\beta = 0.212$ ) were the strongest

predictors of quality of implementation, compared to instructor competencies ( $\beta = 0.157$ ) and provision of resources ( $\beta = 0.125$ ). This puts more of the human-centric aspects rather than the material aspects.

***Effects of Out-of-College (PEST) Factors:*** Technology turned out to be the strongest positive predictor ( $\beta = 0.519$ ), followed by political ( $\beta = 0.252$ ) and economic factors ( $\beta = 0.196$ ), and the social factors had a significant negative effect ( $\beta = -0.344$ ).

***Effects of Mediation:*** PLS-SEM ( $R^2 = 0.341$ ) showed that instructional leadership ( $\beta = 0.313$ ) partially mediated effects of in-college variables, with instructional leadership as the strongest mediator ( $\beta = 0.281$ ), followed by teacher attitudes ( $\beta = 0.233$ ) and resources ( $\beta = 0.174$ ); instructional competencies had insignificant effects ( $\beta = 0.092$ ).

***Interaction Coefficients:*** The PEST factors were found to have greater path coefficients than in-college variables, indicating dominating external effects, but the total explanatory influence was the same, and so interdependent systemic relationships.

### 5.1.2. Qualitative Phase Findings

***Explanatory Themes:*** The moderate  $R^2$  and weak internal effects were put into perspective by the interviews and document analysis showing significant gaps in structural resources (forexample, old infrastructure), low morale and institutional biases, PEST dominance (forexample, technological disadvantages, devaluing teaching as a social activity), weak mediation (forexample, broken policy-practice bridges), and external dampening of internal efforts.

***Policy-Practice Disconnections:*** Documents (forexample, ESDP VI, Digital Ethiopia 2025) described the ambitious reforms, yet interviews showed implementation barriers such as bureaucratic interference, lack of training, and socio-cultural resistance to explain the 65% unexplained variance.

***Hidden variables:*** Unmeasured items like institutional morale, political instability, and cultural norms proved to be very important, contributing to the strength of PEST effects and

compromised internal mediation. Combined with the results of instruments, it can be stated that the quality of TPP is ecologically motivated, and external PEST factors (especially technology and social constraints) play a stronger role than internal abilities, which are structurally constrained.

## **5.2. Conclusions**

Internal capability is necessary, but not conclusive. The aspects of leadership, instructor competence, and professional attitudes have a significant effect on the implementation of TPP, but they cannot fully compensate for systemic limitations, including inconsistent policy guidance, lack of resources, and poor institutional autonomy. Empowering the internal processes is important, yet has to occur in a supportive external environment. The pressure of outside system effects and internal abilities relatively has similar effects. The very similar explanatory strength of the internal ( $R^2 = 0.355$ ) and the external ( $R^2 = 0.354$ ) model shows that there is no strong prevalence of either of the dimensions. Rather, there is a symbiotic relationship between program quality, external policy, social recognition, and technological infrastructure, determining the conditions under which internal leadership, teaching aptitude, and curriculum implementation take place.

The optimistic side of technology is in opposition to social limitations that are firmly embedded in society. Technological advancement is one of the external factors that show the most promising opportunities for program improvement. Nonetheless, it is minimized by its poor institutional readiness, lack of digital literacy, and lack of leadership support. At the same time, unfavorable societal views of teaching are still negatively affecting morale, joining in the profession, and not release, which cancel technological benefits. Leadership and attitude mediation are feeble and vital.

Despite the fact that leadership and teacher professionalism have some ability to buffer external pressures, the mediating power of these two factors is still weak due to the influence of politics, lack of autonomy in decision-making, and persistence of underfunding. These mediators need to be empowered in order to convert external reform into institutional

enhancement that is sustainable. This is not only institutional but also structural and systemic. Since both internal and external factors play an equal role, poor implementation indicates a wider structural and policy-level problem and not a specific college weakness. To ensure long-term sustainability, there is a need to coordinate policy, institutional, and professional interventions, which involves coordination between system design and institutional practice.

### **5.3. Recommendations**

This part will convert the findings into action-prioritized strategies. Recommendations are presented in three levels, which are Policy, Institutional, and Professional Practice, with explicit and implementing actors and justifications. The sequencing indicates urgency and dependency relationships that have been found in the results.

#### **5.3.1. National and Policy-Level Interventions**

##### **➤ Develop a Coherent National Change Structure**

The Ministry of Education (MoE) ought to lead a coordinated national reform agenda that strategically incorporates ICT investment, teacher well-being, and leadership capacity building into a single policy umbrella, as opposed to encouraging fragmented or non-coherent projects.

This is justified by the fact that in the research, both internal and external factors have almost equal explanatory power ( $R^2 = 0.355$  and  $R^2 = 0.354$ , respectively), and external coherence is a precondition of internal reform. The isolated or discontinuous interventions are incapable of producing sustainable systemic change since no configuration is capable of producing the synergy between the institutional capacities and policy conditions.

**Implementation Strategy:** Organization an inter-agency task force that links the crucial directorates that deals with Teacher Education, ICT Strategy, and Human Resource Management. Establish implementation standards that include quantifiable objectives on infrastructure growth, capacity development, and quality barriers. Establish a national monitoring and evaluation (M&E) system to standardize the institutional performance measures with the reform goals.

**Accountable Parties:** Under Federal Ministry of Education (MoE), there are several areas of concentration under its responsibilities. First, the overall alignment and collaboration of educational policies are managed by the MoE and guarantees the existence of a unified system within the education sector. Secondly, Regional Education Bureaus (REBs) are critical in situationalization and regulation of the educational programs and localizing the national policies to local requirements and situations. Also, Teacher Education Colleges (TECs) have a responsibility of reporting on the operational implementation of policies, and therefore, play a role of closing the gap between the theoretical framework and practical implementation in the educational context. Such division of roles is necessary to the successful organization and development of educational goals in national and regional levels.

➤ **Capacity Building to Infrastructure Expansion**

ICT infrastructure growth should be supported with specific leadership and workforce capacity building interventions in order to make the implementation effective and sustainable. The development of infrastructure without leadership development will run the danger of underutilization and inefficiency.

**Accountable Parties:** Within the education provision sector, the Ministry of Education (MoE) ICT Directorate has the role of controlling the design and providing technical correspondence of Information and Communication Technology (ICT) development projects. Simultaneously, the Regional Education Bureaus (REBs) are assigned with the responsibility to control the introduction of these programs and follow the local regulations. Also, the donor's, agencies and development partners are important actors because they not only help in the provision of technical advice but also financial resources to make ICT project more effective and accessible in the educational system.

**Implementation Actions:** Choose resource-constrained colleges as test areas in a gradual implementation of ICT infrastructure so that equity is maintained and learning is taken on board. Conduct online leadership education for the faculty of the college deans and heads of departments, with particular emphasis on the integration of digital pedagogy and management of resources and leadership change. Implement a performance-based funding system and

provide more grants to institutions that have effective adoption and use of educational technology.

**Rationale:** The technological aspect was determined as the most effective positive predictor of the quality of implementation ( $\beta = 0.519$ ). Nonetheless, this promise can only be brought to bear positive outcomes once aesthetic instructional leadership and institutional preparedness mediate them. Leadership development, therefore, plays the role of mediating between the technological investment and its impact on education.

➤ **Improve the Socio-Economic Status and the Professional Prestige of Teachers**

To overcome the adverse social attitude to teaching and facilitate long-term motivation, there is a need to improve the economic well-being, as well as the social image of the profession.

**Accountable Parties:** The Federal Ministry of Education, in particular, the Teacher Development Directorate, is assigned with the responsibility of developing and updating the policies concerning the career structure of the educators. This involves the setting of the guidelines that would result in a good design of teacher professional development and career advancement. These policies are to be implemented at the local level by the Regional Education Bureaus (REBs), which leaves open the opportunities to adapt it to the regional peculiarities and challenges. Additionally, Professional Associations and Teacher Union are quite instrumental in representing the interest of educators by lobbying to safeguard and advance professional rights. Their participation implies that the teachers are heard when it comes to making decisions about their careers.

**Implementation Actions:** Change the teacher career system and salary scales to be based on professional competencies, qualifications, and years of service. National media campaigns should portray teaching as a nation-building profession, utilizing non-discriminatory communication mediums like radio, social media, and community forums to attract and retain teaching talent. Introduce scholarship or bond-based incentive programs to attract high-performing trainees and also enhance teacher retention in underserved locations.

**Rationale:** The results showed that social factors had the most negative impact ( $\beta = -0.344$ ) on the quality of TPP implementation, which was most likely explained by a low professional status and morale. Making teaching a dignified and socially respected profession is thus one of the core measures towards better teacher motivation, retention, and system performance.

### 5.3.2. Institutional level strategies

#### ➤ Enhance Instructional Leadership and Governance Capacity

**Actions:** Embark on continuous Professional Development (CPD) programs on adaptive leadership, evidence-based decision-making, and change management. Establish leadership exchange between high-performing and underperforming colleges in order to learn from peers and to share good leadership practices. Have in place performance review and accountability systems that focus on instructional outcomes and teaching quality as opposed to administrative compliance.

**Accountable Parties:** Major roles played by the Federal Ministry of Education (MoE) in the Teacher Education and Leadership Development Directorate are in setting the standards of leadership, developing education programs, and carrying out assessment. Regional Education Bureaus (REBs) are mandated to coordinate the training provision, performance monitoring and also exchange leaders in their areas. Colleges of Teacher Education (CTE) are charged with the responsibility of undertaking Continuous Professional Development (CPD), undertaking internal reviews and holding performance accountable. Also, Development Partners and Professional Associations as well as offer useful technical support and finances training modules and peer-learning programs.

**Rationale:** Leadership proved to be the most powerful internal factor ( $\beta = 0.313$ ) and a partial mediator among the external systemic pressures and the quality of program implementation. Empowering instructional leadership intensifies internal and external effects of reforms because leaders will be empowered to transfer the reforms into better pedagogy, institutional culture, and student achievements.

### ➤ **Improve Local Co-Funding Models of Physical and Digital Infrastructure**

**Actions:** Promote colleges to come up with co-financing proposals on infrastructure upgrade with the collaboration of regional education bureaus (REBs), development partners, and non-governmental organizations (NGOs). Emphasize sustainable investments like renewable energy plants, a low-cost digital classroom, and resource-efficient learning environments. Incorporate resource allocation strategies and maintenance strategies into institutional strategic planning to ensure long-term functionality and responsibility.

**Accountable Parties:** MoE ICT Directorate and Infrastructure Unit is concerned with policy alignment, resource mobilization, and administration of the guidelines of using educational technology. REBs are put in charge of co-funding programs and prioritizing college projects. The College of Teacher Education (CTE) develops co-funding projects, undertakes projects, and manages local maintenance. The Non-Governmental Organizations, Development Partners, and the Private Sector also provide funds and technical support to make sure that technology in Education facilities is designed and implemented in a sustainable way.

**Rationale:** There were internal linkages in infrastructure and materials that were poor, which limited the execution of programs. A co-responsibility system with levels of tiered and shared responsibility with government, institutions, and partners to make sure that there is ownership, equity, and sustainability with limited public funds maximized.

### **5.3.3. Professional Identity and Teaching Practice**

#### ➤ **Develop Professional Identity and Resilience in Pre-Service Programs.**

**Actions:** Include formal courses about ethics, professional resilience, and reflective practice in all diploma programs. Implement mentorship programs that connect pre-service trainees with experienced professionals to enhance professional modeling and learning opportunities. Institute a national program of Teaching Excellence Fellowship so as to reward high-performing trainees and extraordinary mentors and hence excellence and motivation.

**Accountable Parties:** The Teacher Development Directorate of Federal Ministry of Education is making emphasis on revising the curriculum and incorporating professional identity models in teacher training and development. The REBs are charged with the responsibility of running mentorship systems and identifying best practices. Meanwhile, the Colleges of Teacher Education (CTE) are adding new modules to their courses of work and supervising the relationships between mentors and mentees as well as nominating the candidates to fellowships. Professional Councils and Teacher Unions are paramount in maintaining ethics in learning institutions, and promoting the validation of mentorship activities, not mentioning the support of these ethics.

**Rationale:** A High professional identity will lead to increased intrinsic motivation, resilience, and devotion to the profession. The strengthening of teacher identity in pre-service training can enable teachers to endure socio-economic and contextual stressors and therefore have a more secure and motivated teaching workforce. The effect of this coherence on the sustainability of programs and their long-term educational reform is twofold.

➤ **Evidence-based continuous professional learning needs to be institutionalized**

**Actions:** Establish institutionalized data-based feedback systems between practicum outcomes and classroom observations, and curriculum improvement processes. Encourage constraint-based innovation by use of practitioner research, lesson study groups, and learning circles with fellow group members where critical reflection and peer feedback are promoted. Make sure that academic boards of colleges periodically use data analytics to inform curriculum changes, faculty growth, and program assessment.

**Accountable Parties:** Introducing data management standards and performance evaluation structures is the responsibility of the Federal Ministry of Education (MoE). Regional Education Bureaus (REBs) would help in the development of evidence based reporting systems. Feedback and practitioner research will be integrated in Colleges of Teacher Education (CTE), and data will be utilized to facilitate decision-making. Research Institutions and Higher Education Partners will also be included who will donate their analytical skills, collaborative research programs, and technical support that would help to make the data clear.

**Rationale:** Sustainable progress requires institutions that learn through their own experience. Incorporating data-motivated feedback creates a sense of accountability, reflection, and innovation, and transforms teacher education organizations into learning organizations that can sustain constant suggestions and leadership of reform.

## **5.4. Future Research Directions**

To expand the scope of the findings and limitations of the current study, it is suggested to develop several directions of future research that could contribute to the state of knowledge and improve the implementation of Teacher Preparation Programs (TPPs) in Ethiopia, specifically, in the Southern Nations, Nationalities, and Peoples Region (SNNPR).

### **The Impact of Leadership Development on the Longitudinal Studies**

Further research needs to focus on longitudinal designs to study the long-term impacts of capacity-building programs in instructional leadership on the quality of TPP implementation. This research would make the determination of causal correlations between leadership intervention, institutional performance, and teacher outcomes easy, and hence prove the validity of leadership as a predictable mediator between systemic pressure and instructional effectiveness.

### **Exploring the Hidden and Unmeasured Variables**

The latent variables in the current study were found to be institutional morale, political stability, and cultural attitudes that explained the 65% variance that was not explained. Further studies need to take a mixed-methods or ethnographic methodology in order to clarify the role such implicit socio-cultural and political factors play in affecting the effectiveness of institutions, their motivation, and the integration of reforms.

### **Assessment of ICT incorporation and Digital preparedness**

Considering the presence of technology as the strongest positive external factor ( $\beta = 0.519$ ), the next round of research should examine the discrepancies in becoming digital, technology adoption schemata, and enabling leadership systems in teacher education colleges. The comparative studies between the institutions with high levels of digital infrastructure and the

ones that have limited resources might provide information on the successful models of ICT utilization and long-term sustainability.

### **The Effect of social Culture on the teaching profession status**

With such a significant adverse influence of social issues ( $\beta = -0.344$ ), scholars are urged to study how the teaching profession is viewed in society, including the gender norms, the status of the community, and economic benefits. The use of social psychology and discourse analysis methodologies may shed light on the strategies to support the level of trust in the population and improve the professional reputation of teachers in Ethiopia.

### **Comparative Cross-regional Policy-Implementation Studies**

To improve generalizability, it might be possible to conduct the comparative analyses in the various regions of Ethiopia and evaluate the outcomes on whether the symbiotic interaction between external and internal factors ( $R^2 = 0.35$  each) in the SNNPR is nationally true. This would enlighten the creation of scalable and context-specific frameworks of policy development.

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# APPENDIXES

DILLA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF EDUCATION AND BEHAVIORAL SCIENCES

DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT

PROGRAM FOR PhD IN EDUCATION SPECIALIZING IN EDUCATIONAL  
LEADERSHIP AND POLICY STUDIES

## APPENDIXE-A

### **QUESTIONNAIRE FOR COLLEGE INSTRUCTORS**

Dear instructor,

The purpose of this questionnaire is to gather data about the factors affect primary teacher preparation program implementation in education colleges. The required data is vital important for the success of this study which is a partial fulfillment for a Doctor of philosophy in education, specialization in educational policy and leadership. Therefore, kindly requested to fill the questionnaire that provides necessary information on different issues related to the study. Therefore, your honest, open and timely responses have utmost importance to the success of this study.

The questionnaire divided into three parts. The first part gathers bibliographic information. The second part focuses in college-related factors, which categorized into four variables. The first variable assesses instructors' competencies in curriculum implementation, covering subject matter expertise, teaching methods, planning, classroom management and evaluation. The second variable examines diploma-graduate teachers' attitudes toward the profession and their preparation program. The third variable addresses issues related to the provision of facilities, while the fourth variable pertains to the competence of college instructional leaders. Lastly, the survey questionnaire explores out-of-college variables, such as political, economic, socio-cultural, and technological factors

**Dear** College instructor! Please note that:

- No need of writing your name
- Please answer all questions sequentially
- If you change your answer, please cancel the former choice completely.

- If you have any research-related inquiries, they can be addressed directly to me. My contact details are:

Cell phone: +251911787660/+251986136042 Email: befkadumebamariam@gmail.com

### PART -ONE: BACKGROUND INFORMATION

1.1.1: Circle value in the designated box for the Part One demographic questions.

1.	Participants	Instructor	Instructional leader	Diploma graduated teachers				
2.	Sex	Male	Female					
3.	Age	Under 25	25-34	35-45	Over 45			
4.	Level of education	BA Degree	B.Sc. Degree	B.Ed. Degree	MA Degree	M.Sc. Degree	M.Ed. Degree	Ph.D. Degree/DED
5.	Name of your college	Dilla	Hossana	Bonga	Arbaminch	Hawassa		

### PART –TWO: MAJOR IN-COLLEGE FACTORS

#### 2.1. College instructors' views of experiences regarding the curriculum implementing competencies factors in their CTE.

**Direction:** -The following Questions on a 5-point likert scale indicate the extent to which you agree or disagree about the major in-college factors particularly College instructor's curriculum implementing competencies factors that affect the implementation exercise of the program. Please indicate your responses by encircling the box corresponding to the number that represents your level of agreement.

N.B the numbers represents the following meanings.

Score	Response Mode	Description
1	<i>Never</i>	at no time in the past or future; not ever
2	<i>Seldom</i>	not often; rarely
3	<i>Sometimes</i>	occasionally, rather than all of the time
4	<i>Often</i>	frequently; many times
5	<i>Almost always</i>	at all times; on all occasion

*1.1. 2.:College instructors' views of experiences regarding the curriculum implementing competencies factors in their CTE.*

No	Subject matter and teaching learning	Scales				
<b>I ...</b>						
1	Adapt content delivery to diverse learning styles and abilities	1	2	3	4	5
2	Encourage critical thinking and analysis within the subject matter.	1	2	3	4	5
3	Integrate interdisciplinary perspectives where applicable.	1	2	3	4	5
4	Demonstrate ability in applying subject matter knowledge to real-world contexts.	1	2	3	4	5
5	Create opportunities for active learning methods and presentations.	1	2	3	4	5
6	Utilize a variety of teaching aids, including audio and audio-visual resources, at appropriate times and for relevant topics.	1	2	3	4	5
<b>No Planning, classroom management and assessment</b>						
1	Integrate culturally relevant materials and supplementary topics into lesson plans	1	2	3	4	5
2	Adapt lesson plans based on ongoing formative assessment data.	1	2	3	4	5
3	Implement strategies to accommodate diverse student needs and abilities.	1	2	3	4	5
4	Establish clear disciplinary practices to address conflicts and behavioral issues.	1	2	3	4	5
5	Maintain organized and well-managed classroom routines and procedures	1	2	3	4	5
6	Use assessment data to inform instructional decisions and interventions.	1	2	3	4	5

**2.2.College instructors' views regarding factors related to diploma graduate teacher in their CTE.**

**Direction:** - The following questions, on a 5 points likert scale, indicate the extent to which you agree or disagree with the major in-college factors, particularly our former diploma graduate teacher attitude as factors that affect the implementation exercise of the program. Please indicate your responses by encircling the box corresponding to the number that represents your level of agreement

N.B the numbers represents the following meanings.

**Strongly disagree=1    Disagree=2    Undecided=3    Agree=4    strongly agree=5**

1.1. 3: College instructors' views regarding factors related to diploma graduate teacher in their CTE.

No	Profession and Program Perception					
I think diploma Graduates teachers ...						
2	opted for the teaching profession, see it as a journey of lifelong learning and not as a path to other careers	1	2	3	4	5
3	View teaching as a noble profession that contributes to social progress.	1	2	3	4	5
4	Value the intrinsic rewards of teaching such as making a difference in students' lives.	1	2	3	4	5
5	expressed appreciation for their college of teacher education for its role in shaping them into well-rounded professionals	1	2	3	4	5
6	Appreciate the practical skills acquired through hands-on experiences in the preparation.	1	2	3	4	5
7	Recognize the value of theoretical knowledge gained in the preparation	1	2	3	4	5
8	Attribute their professional identity and sense of purpose to their preparation program	1	2	3	4	5

2.3. College instructors' views regarding the provision of facilities factors in their CTE.

**Direction:** - Please indicate your level of agreement or disagreement on a 5-point likert scale regarding the instructional materials and educational infrastructure, which affect the implementation of the program.

N.B the numbers represents the following meanings.

*Very poor*=1    *Poor*=2    *Fair*=3    *Good*=4    *Very good*=5

1.1. 4: College instructors' views regarding the provision of facilities factors in their CTE.

Instructional Materials and infrastructure						
1	Integration of multimedia resources such as videos, animations, and simulations.	1	2	3	4	5
2	Instructor guides for training theoretical and practical skills in teacher preparation programs.	1	2	3	4	5
3	Access to a variety of teaching aids such as models, charts, and manipulative.	1	2	3	4	5
4	Provision of dedicated spaces for student collaboration and group projects.	1	2	3	4	5
5	Adequate lighting and audibility in instructional sitting room are needed to support effective teaching and learning	1	2	3	4	5

6	Provision of recreation and refreshment services and equipment to support comfort during extended periods of study or teaching.	1	2	3	4	5
7	Accessibility features for individuals with visual or hearing impairments.	1	2	3	4	5

#### 2.4.College instructors' views regarding the instructional leadership competency related factors in their CTE

**Direction:** - Please indicate your level of agreement or disagreement on a 5-point likert scale regarding the major in-college factors. These factors affect the implementation exercise of the program. Please encircle the box corresponding to the number that represents your response.

N.B the numbers represents the following meanings.

*Never=1      Seldom =2      Sometimes= 3      Often= 4      Almost always = 5*

*1.1. 5: College instructors' views regarding the instructional leadership competency related factors in their CTE*

No	Sharing Goals and Community Engagement					
<b>They (are)...</b>						
1	Effectively communicates the college's goal to academic staff, support staff, and diploma students.	1	2	3	4	5
2	Advocate for resources and support necessary to achieve the college's vision.	1	2	3	4	5
3	Utilize multiple communication channels to ensure widespread understanding about the college's vision and goals.	1	2	3	4	5
4	Mediate conflicts and resolve disputes within the college community effectively.	1	2	3	4	5
5	Actively seek input and feedback from various college stakeholders.	1	2	3	4	5
6	Represent the college positively and professionally in external engagements and interactions.	1	2	3	4	5
<b>Managing and Overseeing Instructors Educational Practices</b>						
1	Demonstrate expertise at solving education-related problems in a timely manner.	1	2	3	4	5
2	Foster a culture of reflective practice among instructors to enhance teaching effectiveness	1	2	3	4	5
3	Stay well informed of educational research such as action research and best practices to inform instructional decision-making.	1	2	3	4	5
4	Implement various reward systems to improve the performance of potential instructors.	1	2	3	4	5
5	Advocate for professional development opportunities modified to instructors' interests and follow-up through appraisals.	1	2	3	4	5
6	Ensure that college facilities are conducive to teaching and learning	1	2	3	4	5

7	Advocate for policies and practices that promote inclusivity, diversity, and equity in the college learning environment.	1	2	3	4	5
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### PART THREE: MAJOR OUT-COLLEGE FACTORS

#### 3.1.College instructors' views regarding the PEST related factors in their CTE.

**Direction:** -The following Questions on a 5 points likert scale, indicate the extent to which you agree or disagree about the major out of college factors specifically **Political factor, Economic factor, Socio-cultural factors and Technological factors** that affect the implementation exercise of the program. Please indicate your responses by encircling the box corresponding to the number that represents your level of agreement.

N.B the numbers represents the following meanings.

*Never=1      Seldom =2      Sometimes= 3      Often= 4      Almost always = 5*

#### 1.1. 6 College instructors' views regarding the PEST related factors in their CTE

No	Political factors	Scales				
1	Political unrest or protests within the country can disrupt program implementation in teacher training colleges.	1	2	3	4	5
2	Political interference in teacher training programs can result in spontaneous meetings and changes in academic schedules during the implementation.	1	2	3	4	5
3	Teachers' education colleges were unable to implement the decrees, laws, regulations, and legislation enacted due to corruption and abuse of power.	1	2	3	4	5
<b>Economic factors</b>						
4	Inflation in the country not affect the teacher preparations program	1	2	3	4	5
5	Economic downturns may quick budget cuts in education spending, reducing support for teacher preparation programs.	1	2	3	4	5
6	Unemployment in your area has posed a major challenge to the performance of teacher preparation programs.	1	2	3	4	5
7	Economic incentives for teachers, such as increased salaries, may affect the number of students enrolling in teacher training colleges.	1	2	3	4	5
<b>Scio-cultural factors</b>						
8	Societal expectations regarding work-life balance may increase the retention rates of teachers trained in teacher preparation colleges.	1	2	3	4	5
9	Society wants their children to attend teachers' education colleges.	1	2	3	4	5
10	Cultural diversity among students enriches the learning experience and promotes inclusive teaching activities in teacher preparation programs.	1	2	3	4	5
11	Cultural attitudes toward gender roles may influence the representation of male and female students in teacher preparation programs.	1	2	3	4	5
<b>Technological factors</b>						
12	There was a compelling pre-existing condition for the college to be highly	1	2	3	4	5

	motivated in the use of technology.					
13	In our college, the adoption of technology in communication tools has simplified data collaboration and networking between college communities.	1	2	3	4	5
14	Technological infrastructure improvements, such as high-speed internet, digital classes, have made the delivery of courses in teacher training colleges efficient.	1	2	3	4	5
15	In our college, educational software and applications streamline administrative tasks and enhances collaboration among instructors in teacher preparation programs.	1	2	3	4	5

**Direction:** - The survey asks for your level of agreement or disagreement on the program implementation quality, with responses indicated by encircling the box corresponding to your level of agreement.

N.B the numbers represents the following meanings.

*Strongly disagree=1 Disagree=2 Undecided=3 Agree=4 strongly agree=5*

1.1. 7: level of agreement or disagreement on the program implementation quality

<b>Program Implementation quality effectiveness</b>						
1	I believe that the instructors' curriculum implementation at the college was reliable and that the preparation for teacher education has been effective.	1	2	3	4	5
2	I feel that diploma-graduate teachers are satisfied with the implementation of the teacher preparation program.	1	2	3	4	5
3	I believe that college's academic leader performance has been good and that the academic preparation program has been effective.	1	2	3	4	5

<b>Program Implementation quality effectiveness</b>						
1	I am confident that the political working conditions at my primary school teacher preparation college are safe and healthy.	1	2	3	4	5
2	I am confident that the Socio- economic working conditions at my primary school teacher preparation college are safe and healthy	1	2	3	4	5
3	I am confident that the technological working conditions at my primary school teacher preparation college are safe and healthy	1	2	3	4	5

If you are willing to do face-to-face interview, please save your e-mail address and/or phone number from the open space below. Thank you.

Email Address: ----- Phone Number: -----

DILLA UNIVERSITY  
SCHOOL OF GRADUATE STUDIES  
INSTITUTE OF EDUCATION AND BEHAVIORAL SCIENCES  
DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT  
PROGRAM FOR PhD IN EDUCATION SPECIALIZING IN EDUCATIONAL  
LEADERSHIP AND POLICY STUDIES

**APPENDIXE-B**

**QUESTIONNAIRE FOR COLLEGE INSTRUCTIONAL LEADERS**

Dear instructor,

The purpose of this questionnaire is to gather data about the factors affect primary teacher preparation program implementation in education colleges. The required data is vital important for the success of this study which is a partial fulfillment for a Doctor of philosophy in education, specialization in educational policy and leadership. Therefore, kindly requested to fill the questionnaire that provides necessary information on different issues related to the study. Therefore, your honest, open and timely responses have utmost importance to the success of this study.

The questionnaire divided into three parts. The first part gathers bibliographic information. The second part focuses in college-related factors, which categorized into four variables. The first variable assesses instructors' competencies in curriculum implementation, covering subject matter expertise, teaching methods, planning, classroom management and evaluation. The second variable examines diploma-graduate teachers' attitudes toward the profession and their preparation program. The third variable addresses issues related to the provision of facilities, while the fourth variable pertains to the competence of college instructional leaders. Lastly, the survey questionnaire explores out-of-college variables, such as political, economic, socio-cultural, and technological factors

**Dear** College instructor! Please note that:

- No need of writing your name
- Please answer all questions sequentially
- If you change your answer, please cancel the former choice completely.
- If you have any research-related inquiries, they can addressed directly to me. My contact details are:

Cell phone: +251911787660/+251986136042 Email: befkadumebamariam@gmail.com

## PART -ONE: BACKGROUND INFORMATION

1.1. 8: Circle value in the designated box for the Part One demographic questions.

1.	Participants	Instructor	Instructional leader	Diploma graduated teachers				
2.	Sex	Male	Female					
3.	Age	Under 25	25-34	35-45	Over 45			
4	Level of education	BA Degree	B.Sc. Degree	B.Ed. Degree	MA Degree	M.Sc. Degree	M.Ed. Degree	Ph.D. Degree/D ED
5.	Name of your college	Dilla	Hossana	Bonga	Arbaminch	Hawassa		

## PART –TWO: MAJOR IN-COLLEGE FACTORS

### 2.2. College instructors' views of experiences regarding the curriculum implementing competencies factors in their CTE.

**Direction:** -The following Questions on a 5-point likert scale indicate the extent to which you agree or disagree about the major in-college factors particularly College instructor's curriculum implementing competencies factors that affect the implementation exercise of the program. Please indicate your responses by encircling the box corresponding to the number that represents your level of agreement.

N.B the numbers represents the following meanings.

Score	Response Mode	Description
1	<i>Never</i>	at no time in the past or future; not ever
2	<i>Seldom</i>	not often; rarely
3	<i>Sometimes</i>	occasionally, rather than all of the time
4	<i>Often</i>	frequently; many times
5	<i>Almost always</i>	at all times; on all occasion

1.1. 9: College instructors' views of experiences regarding the curriculum implementing competencies factors in their CTE.

No	Subject matter and teaching learning	Scales				
<b>I ...</b>						
1	Adapt content delivery to diverse learning styles and abilities	1	2	3	4	5
2	Encourage critical thinking and analysis within the subject matter.	1	2	3	4	5
3	Integrate interdisciplinary perspectives where applicable.	1	2	3	4	5
4	Demonstrate ability in applying subject matter knowledge to real-world contexts.	1	2	3	4	5
5	Create opportunities for active learning methods and presentations.	1	2	3	4	5
6	Utilize a variety of teaching aids, including audio and audio-visual resources, at appropriate times and for relevant topics.	1	2	3	4	5
<b>No Planning, classroom management and assessment</b>						
1	Integrate culturally relevant materials and supplementary topics into lesson plans	1	2	3	4	5
2	Adapt lesson plans based on ongoing formative assessment data.	1	2	3	4	5
3	Implement strategies to accommodate diverse student needs and abilities.	1	2	3	4	5
4	Establish clear disciplinary practices to address conflicts and behavioral issues.	1	2	3	4	5
5	Maintain organized and well-managed classroom routines and procedures	1	2	3	4	5
6	Use assessment data to inform instructional decisions and interventions.	1	2	3	4	5

**2.4. College instructors' views regarding factors related to diploma graduate teacher in their CTE.**

**Direction:** - The following questions, on a 5 points likert scale, indicate the extent to which you agree or disagree with the major in-college factors, particularly our former diploma graduate teacher attitude as factors that affect the implementation exercise of the program. Please indicate your responses by encircling the box corresponding to the number that represents your level of agreement

N.B the numbers represents the following meanings.

**Strongly disagree=1    Disagree=2    Undecided=3    Agree=4    strongly agree=5**

1.1. 10: College instructors' views regarding factors related to diploma graduate teacher in their CTE.

No	Profession and Program Perception					
<b>I think</b> diploma Graduates teachers ...						
2	opted for the teaching profession, see it as a journey of lifelong learning and not as a path to other careers	1	2	3	4	5
3	View teaching as a noble profession that contributes to social progress.	1	2	3	4	5
4	Value the intrinsic rewards of teaching such as making a difference in students' lives.	1	2	3	4	5
5	expressed appreciation for their college of teacher education for its role in shaping them into well-rounded professionals	1	2	3	4	5
6	Appreciate the practical skills acquired through hands-on experiences in the preparation.	1	2	3	4	5
7	Recognize the value of theoretical knowledge gained in the preparation	1	2	3	4	5
8	Attribute their professional identity and sense of purpose to their preparation program	1	2	3	4	5

### 2.5.College instructors' views regarding the provision of facilities factors in their CTE.

**Direction:** - Please indicate your level of agreement or disagreement on a 5-point likert scale regarding the instructional materials and educational infrastructure, which affect the implementation of the program.

N.B the numbers represents the following meanings.

*Very poor*=1    *Poor*=2    *Fair*=3    *Good*=4    *Very good*=5

*1.1. 11: College instructors' views regarding the provision of facilities factors in their CTE.*

<b>Instructional Materials and infrastructure</b>						
1	Integration of multimedia resources such as videos, animations, and simulations.	1	2	3	4	5
2	Instructor guides for training theoretical and practical skills in teacher preparation programs.	1	2	3	4	5
3	Access to a variety of teaching aids such as models, charts, and manipulative.	1	2	3	4	5
4	Provision of dedicated spaces for student collaboration and group projects.	1	2	3	4	5
5	Adequate lighting and audibility in instructional sitting room are needed to support effective teaching and learning	1	2	3	4	5
6	Provision of recreation and refreshment services and equipment to support comfort during extended periods of study or teaching.	1	2	3	4	5
7	Accessibility features for individuals with visual or hearing impairments.	1	2	3	4	5

## 2.5.College instructors' views regarding the instructional leadership competency related factors in their CTE

**Direction:** - Please indicate your level of agreement or disagreement on a 5-point likert scale regarding the major in-college factors. These factors affect the implementation exercise of the program. Please encircle the box corresponding to the number that represents your response.

N.B the numbers represents the following meanings.

*Never=1      Seldom =2      Sometimes= 3      Often= 4      Almost always = 5*

*1.1. 12: College instructors' views regarding the instructional leadership competency related factors in their CTE*

No	Sharing Goals and Community Engagement					
<b>They (are)...</b>						
1	Effectively communicates the college's goal to academic staff, support staff, and diploma students.	1	2	3	4	5
2	Advocate for resources and support necessary to achieve the college's vision.	1	2	3	4	5
3	Utilize multiple communication channels to ensure widespread understanding about the college's vision and goals.	1	2	3	4	5
4	Mediate conflicts and resolve disputes within the college community effectively.	1	2	3	4	5
5	Actively seek input and feedback from various college stakeholders.	1	2	3	4	5
6	Represent the college positively and professionally in external engagements and interactions.	1	2	3	4	5
<b>Managing and Overseeing Instructors Educational Practices</b>						
1	Demonstrate expertise at solving education-related problems in a timely manner.	1	2	3	4	5
2	Foster a culture of reflective practice among instructors to enhance teaching effectiveness	1	2	3	4	5
3	Stay well informed of educational research such as action research and best practices to inform instructional decision-making.	1	2	3	4	5
4	Implement various reward systems to improve the performance of potential instructors.	1	2	3	4	5
5	Advocate for professional development opportunities modified to instructors' interests and follow-up through appraisals.	1	2	3	4	5
6	Ensure that college facilities are conducive to teaching and learning	1	2	3	4	5
7	Advocate for policies and practices that promote inclusivity, diversity, and equity in the college learning environment.	1	2	3	4	5

## PART THREE: MAJOR OUT-COLLEGE FACTORS

### 3.2. College instructors' views regarding the PEST related factors in their CTE.

**Direction:** -The following Questions on a 5 points likert scale, indicate the extent to which you agree or disagree about the major out of college factors specifically **Political factor, Economic factor, Socio-cultural factors and Technological factors** that affect the implementation exercise of the program. Please indicate your responses by encircling the box corresponding to the number that represents your level of agreement.

N.B the numbers represents the following meanings.

*Never=1      Seldom =2      Sometimes= 3      Often= 4      Almost always = 5*

#### 1.1. 13 College instructors' views regarding the PEST related factors in their CTE

No	Political factors	Scales				
1	Political unrest or protests within the country can disrupt program implementation in teacher training colleges.	1	2	3	4	5
2	Political interference in teacher training programs can result in spontaneous meetings and changes in academic schedules during the implementation.	1	2	3	4	5
3	Teachers' education colleges were unable to implement the decrees, laws, regulations, and legislation enacted due to corruption and abuse of power.	1	2	3	4	5
<b>Economic factors</b>						
4	Inflation in the country not affect the teacher preparations program	1	2	3	4	5
5	Economic downturns may quick budget cuts in education spending, reducing support for teacher preparation programs.	1	2	3	4	5
6	Unemployment in your area has posed a major challenge to the performance of teacher preparation programs.	1	2	3	4	5
7	Economic incentives for teachers, such as increased salaries, may affect the number of students enrolling in teacher training colleges.	1	2	3	4	5
<b>Scio-cultural factors</b>						
8	Societal expectations regarding work-life balance may increase the retention rates of teachers trained in teacher preparation colleges.	1	2	3	4	5
9	Society wants their children to attend teachers' education colleges.	1	2	3	4	5
10	Cultural diversity among students enriches the learning experience and promotes inclusive teaching activities in teacher preparation programs.	1	2	3	4	5
11	Cultural attitudes toward gender roles may influence the representation of male and female students in teacher preparation programs.	1	2	3	4	5
<b>Technological factors</b>						
12	There was a compelling pre-existing condition for the college to be highly motivated in the use of technology.	1	2	3	4	5

13	In our college, the adoption of technology in communication tools has simplified data collaboration and networking between college communities.	1	2	3	4	5
14	Technological infrastructure improvements, such as high-speed internet, digital classes, have made the delivery of courses in teacher training colleges efficient.	1	2	3	4	5
15	In our college, educational software and applications streamline administrative tasks and enhances collaboration among instructors in teacher preparation programs.	1	2	3	4	5

**Direction:** - The survey asks for your level of agreement or disagreement on the program implementation quality, with responses indicated by encircling the box corresponding to your level of agreement.

N.B the numbers represents the following meanings.

*Strongly disagree=1    Disagree=2    Undecided=3    Agree=4    strongly agree=5*

*1.1. 14: level of agreement or disagreement on the program implementation quality*

<b>Program Implementation quality effectiveness</b>						
1	I believe that the instructors' curriculum implementation at the college was reliable and that the preparation for teacher education has been effective.	1	2	3	4	5
2	I feel that diploma-graduate teachers are satisfied with the implementation of the teacher preparation program.	1	2	3	4	5
3	I believe that college's academic leader performance has been good and that the academic preparation program has been effective.	1	2	3	4	5

<b>Program Implementation quality effectiveness</b>						
1	I am confident that the political working conditions at my primary school teacher preparation college are safe and healthy.	1	2	3	4	5
2	I am confident that the Socio- economic working conditions at my primary school teacher preparation college are safe and healthy	1	2	3	4	5
3	I am confident that the technological working conditions at my primary school teacher preparation college are safe and healthy	1	2	3	4	5

If you are willing to do face-to-face interview, please save your e-mail address and/or phone number from the open space below. Thank you.

Email Address: -----

Phone Number: -----

**ዲላ ዩኒቨርሲቲ**

**የድህረ ምረቃ ትምህርት ቤት  
የትምህርት እና ስነ-ባህሪ ሳይንሶች ተቋም  
የትምህርት አመራርና አስተዳደር ትምህርት ክፍል**

የፍልስፍና ዶክትሬት ዲግሪ በስነ-ትምህርት ፕሮግራም ትኩረት በትምህርት አመራርና ፖሊሲ

**APPENDIXE- C**

**በየኮሌጆቹ በዲፕሎማ ለተመረቁ መምህራን የተዘጋጀ መጠይቅ**

**ውድ ይህን መጠይቅ የምትሞሉ በዲፕሎማ የተመረቃችሁ መምህራን፡-**

ይህ መጠይቅ የተዘጋጀው “በቀድሞው ደቡብ ብሄር ብሄረሰቦች ህዝቦች ክልል በሚገኙ የትምህርት ኮሌጆች የአንደኛ ደረጃ መምህራን ትምህርት ዝግጅት ፕሮግራም ትግበራን መገምገም” ነው። ስለዚህ የአንተ/ቺ እውነተኛ ግልጽ እና ወቅታዊ ምላሽ ለዚህ ጥናት ስኬት ወሳኝ ጠቀሜታ አለው። ስለሆነም ከጥናቱ ጋር በተያያዙ የተለያዩ ጉዳዮች ላይ አስፈላጊውን መረጃ ማግኘት ይቻላል ዘንድ ይህን የፅሁፍ መጠይቅ እንድትሞላ/ይ በትህትና እጠይቃለሁ።

መጠይቁ በሦስት ክፍሎች የተከፈለ ሲሆን የመጀመሪያው የተሳታፊዎችን ዳራ መረጃ ይሰጣል። ሁለተኛው ክፍል ከኮሌጅ ጋር የተያያዙ ዋና ዋና ጉዳዮች ላይ ያተኩራል፤ እነዚህም በአራት ተለዋዋጮች ተመድበዋል። የመጀመሪያው ተለዋዋጭ የኮሌጅ መምህራን የስርዓተ ትምህርት ትግበራ ብቃት ነው። ሁለተኛው ተለዋዋጭ ከየኮሌጆቹ በዲፕሎማ ተመርቀው ስራ ላይ የሚገኙ መምህራን ኮሌጅ በነበሩበት ወቅት ለመያወት እና ለመምህርነት ዝግጅት ፕሮግራሙ ያላቸውን አመለካከት ይዳስሳል። ሦስተኛው ተለዋዋጭ የትምህርት ግብዓት አቅርቦትና ምቹ መሰረተ ልማት እንዲሁም ተያያዥ ጉዳዮችን ያካትታል። አራተኛው ተለዋዋጭ ከኮሌጅ የአካዳሚክ አመራር ተግባርና ኃላፊነት ከመወጣት ብቃት ጋር የተያያዘ ነው። የዳሰሳ ጥናቱ ሶስተኛው ክፍል ከኮሌጅ ውጪ ያሉ ጉዳዩን ይመለከታል። በሂደቱም እንደ ፖለቲካዊ፣ ኢኮኖሚያዊ፣ ማህበራዊና ቴክኖሎጂያዊ ተጽዕኖዎችን ይዳስሳል።

**ውድ የጥናቱ ተሳታፊ፡-**

- የስምምነት ደረጃህን/ሽን ከሚወክለው ቁጥር በመክበብ መልስ ስጥ/ጪ
- ስም መጻፍ አያስፈልግም
- መጠይቆችን ለመሙላት ሌላ ሰው ማማከር አያስፈልግም
- የመልስ ምርጫ ከቀየርህ/ሽ፣ ቀድመው የመረጥከውን/ሽውን ሙሉ በሙሉ ሰርዝ/ገር

ከጥናትና ምርምር ጋር የተያያዙ ጥያቄዎች ካሉት ከዚህ በታች በተዘረዘሩ አድራሻዎቹ በቀጥታ እኔን ማግኘት ትችላለህ/ያለሽ። ስልክ፡+251911787660/+251986136042 ኢሜል፡befkadumebamariam@gmail.com

ለትብብርህ/ሽ አስቀድሜ አመሰግናለሁ።

**ክፍል አንድ፡ የተሳታፊዎች ዳራ አጠቃላይ መረጃ**

ከዚህ ቀጥሎ የአንተን/ቺን አጠቃላይ መረጃ በሚመለከት ጥያቄዎች ቀርበዋል። ጥያቄዎች በምርጫ መልክ እና በክፍት ቦታ የቀረቡ በመሆኑ ክፍት የሆኑ ቦታዎችን በመሙላት፤ ምርጫዎችን ደግሞ ቁጥሩን በመክበብ መልስ/ሺ።

1.	የታ	ወንድ	ሴት			
2.	እድሜ	ከ 25 ዓመት በታች	ከ25-34	35-45	ከ 45 ዓመት በላይ	
3.	የተመረቅህበት/ሽበት ዓመተ ምህረት	በ 2010	በ 2011	በ 2012	በ 2013	በ 2014
4.	ትምህርት ክፍል/ሽ የሚገኝበት ስትሪም	ቋንቋዎች Mother tongue, Amharic and English	ማህበራዊ ሳይንስ Social, civics	የተፈጥሮ ሳይንስ MES, physics, chemistry, biology & math's	ጤናና የሰውነት ማጎልመሻ ስነ-ውበት (ART, MUSIC and HPE	ሌላ (ግለፅ/ጨ)..... ...
5.	የተማርክበት/ሽበት ትምህርት ኮሌጅ	ዲላ	ሆሳና	ቦንጋ	አርባምንጭ	

**ክፍል ሁለት፡ ኮሌጅ ሊወስንባቸው የሚችሉ እና በተቋሙ ቁጥጥር ስር ያሉ ተፅዕኖዎች**

**2.1. የኮሌጅ አስተማሪዎች በሚመለከት የዲፕሎማ ተመራቂ መምህራን እይታ**

**መመሪያ፡-** ከዚህ ቀጥሎ የኮሌጅ አስተማሪዎች ስርዓተ ትምህርቱን የመተግበር ብቃት ደረጃ ለመገምገም የሚያችሉ ጥያቄዎች (ዐረፍተ ነገሮች) ተሰናድተዋል። ስለዚህ እያንዳንዱን ጥያቄ (ዐረፍተ ነገር) በማንበብ በመምህራን ትምህርት ዝግጅት ፕሮግራም አተገባበር ላይ የሚያሳድሩትን ተፅዕኖዎች ደረጃ ያለህን/ያለሽን ግንዛቤ ምን ያህል እንደተስማህ/ሽ ወይም እንዳልተስማማህ/ሽ የስምምነት ደረጃህን/ሽን ከሚወክለው ቁጥር በመክበብ መልስ ስጥ/ጨ።

**ማሳሰቢያ፡-** ቁጥሮቹ የሚከተሉትን ትርጉሞች ያመለክታሉ።

**1= በጭራሽ 2=በጣም በተወሰነ ጊዜ 3=አልፎ አልፎ/አንዳንድ ጊዜ 4= ብዙውን ጊዜ 5=ሁልጊዜ**

የሚያስተምረውን ትምህርትና መማር-ማስተማር ያለው ብቃት						
1	የተለያዩ የእውቀት ዓይነቶችንና ችሎታዎችን ለማዳረስ የሚያስችሉ የማስተማር- መማር ስልቶችን /ዘዴዎችን/ ያስተካክል ነበር።	1	2	3	4	5
2	በሚያስተምረው የትምህርት አይነት ጥልቅ ትንታኔ መስጠት ላይ ውጤታማ ነበር።	1	2	3	4	5

3	በመማር ማስተማር ወቅት የተለያዩ የትምህርት አይነቶች በአንድ ርዕሰ ጉዳይ ላይ እርስ በርስ የሚያገናኙ አመለካከቶችን ያካትት ነበር።	1	2	3	4	5
4	አሳታፊ የመማር ማስተማር ዘዴዎች በክፍል ውስጥ እንዲኖሩ እድል ይፈጥር ነበር።	1	2	3	4	5
5	በድምፅና በምስል የሚሰሩ ነገሮችን ጨምሮ የተለያዩ የማስተማሪያ መሣሪያዎች በተገቢው ጊዜ እንዲሁም ተያያዥ በሆኑ ርዕሰ ጉዳዮች ላይ ይጠቀም ነበር።	1	2	3	4	5
6	የተማሪዎችን የተሳሳተ አመለካከት እና በመረዳት ክፍተቶችን ለመፍታት የሚያስችሉ የተለያዩ የእርማት ስልቶችን ይተገብር ነበር።	1	2	3	4	5
<b>የትምህርት ዕቅድ፣ የክፍል ውስጥ አስተዳደርና ምዘና ግምገማ</b>						
1	የትምህርት እቅዶችን ሲያዋቅር ባህላዊ ርዕሰ ጉዳዮችን እና ከአካባቢው ከሚገኙ ቁሳቁሶች ከግምት በማስገባት ነበር።	1	2	3	4	5
2	የትምህርት እቅዶችን ቀጣይነት ባላቸው የመገምገሚያ መረጃዎች ላይ ተመስርቶ ያስተካክል ነበር።	1	2	3	4	5
3	የተማሪ ፍላጎቶችን እና ችሎታዎችን አገልግ ለማውጣት የተለያዩ ስልቶችን ይተገብር ነበር።	1	2	3	4	5
4	የተማሪ ባሕርይ ችግሮችን ለመፍታት ግልጽ የሆነ የዲሲፕሊን ስርዓት ዘርግቶ ነበር።	1	2	3	4	5
5	የተደራጀና በሚገባ የተዋቀረ የክፍል አስተዳደር ስርዓትና ስልት ዘርግቶ ነበር።	1	2	3	4	5
6	የተማሪዎች የመማር ጠንካራ ጎኖችን እና ድክመቶችን ለማስተካከል የምዘና ውጤቶችን ይጠቀም ነበር።	1	2	3	4	5

**2.2. ከዲፕሎማ ምሩቃን መምህራን አጠቃላይ ሁኔታ ጋር የተያያዙ ጉዳዮችን በሚመለከት የዲፕሎማ ተመራቂ መምህርን እይታ እና ልምድ መለካት**

**መመሪያ፡-** የሚከተሉት ጥያቄዎች ከ1-5 ባለው ደረጃ፣ በኮሌጅ ውስጥ ዋና ዋና ጉዳዮች በተለይም የዲፕሎማ ምሩቃን መምህራን እይታ የሚመዘኑ ዐረፍተ ነገሮች ተዘርዝረዋል። ምን ያህል እንደተስማማህ/ሽ ወይም እንዳልተስማማህ/ሽ የስምምነት ደረጃህ/ሽ ከሚወክለው ቁጥር ጋር በሚዛመደው በመክበብ ስምምነትህን/ሽን ግለፅ/ጩ።

**ማላሰቢያ፡-** ቁጥሮቹ የሚከተሉትን ትርጉሞች ያመለክታሉ።

በጽኑ አልስማማም = 1 አልስማማም = 2 አልወሰንኩም = 3 እስማማለሁ = 4 በጣም እስማማለሁ = 5

<b>ስለ መምህርነት ሙያና የዝግጅት ፕሮግራሙ ያለው አተያይ</b>						
<b>የዲፕሎማ ምሩቅ መምህር/ሯ...</b>						
2	መምህርነት የዕድሜ ልክ የመማር ጉዞ በመሆኑ የመምህርነትን ሙያ መርጧል።	1	2	3	4	5
3	መምህርነት ለኅብረተሰብ መሻሻል አስተዋጽኦ የሚያበረክት ሙያ እንደሆነ ያምናል።	1	2	3	4	5
4	መምህርነት በተማሪዎች ሕይወት ላይ ዘላቂያዊ ለውጥ ማምጣት በመሆኑ ክብር አለው።	1	2	3	4	5

5	ኮሌጃችን ባለሙያዎች በተገቢው እንዲቀረፁ ላበረከተው ሚና ከፍተኛ አድናቆት አለኝ።	1	2	3	4	5
6	በተግባራዊ (practical) ልምዶች ምክንያት የመምህርነት ትምህርት ዝግጅቱን ያደንቃል።	1	2	3	4	5
7	በመምህርነት ትምህርት ዝግጅት ያገኘው የንድፈ-ሃሳብ ዕውቀት ጠቀሜታ ከፍተኛ ነበር።	1	2	3	4	5
8	የመምህርነት ትምህርት ዝግጅቱ ሙያዊ ማንነትና ስሜቱን እንዳንፀባርቅ አድርጎኛል።	1	2	3	4	5

**2.3. በኮሌጁ የሚገኙ የመገልገያ ቁሳቁሶችና አቅርቦት ጋር የተያያዙ ጉዳዮችን በሚመለከት የዲፕሎማ ተመራቂ መምህራን እይታ**

**መመሪያ:-** የሚከተሉት ጥያቄዎች ከ1-5 ባለው ደረጃ፣ በኮሌጅ ውስጥ ዋና ዋና ጉዳዮች በተለይም የዲፕሎማ ምሩቃን መምህራን ስለ ማስተማሪያ ቁሳቁስ እና ስለ መሰረተ-ልማት ያላቸውን አመለካከት የሚለኩ ጥያቄዎች (አረፍተ ነገሮች) ተዘርዘረዋል። በፕሮግራሙ ትግበራ ላይ ተጽዕኖ የሚያሳድሩ ምክንያቶችን በተመለከተ ምን ያህል እንደተስማማህ/ሽ ወይም እንዳልተስማማህ/ሽ የስምምነት ደረጃህ/ሽን ከሚወክለው ቁጥር ጋር የሚዛመደውን ሳጥን በመክበብ ስምምነትህን/ሽን ግለፅ/ጩ።

**ማሳሰቢያ:-** ቁጥሮቹ የሚከተሉትን ትርጉሞች ያመለክታሉ።

በጣም ዝቅተኛ/ለጭራሽ/ = 1 ዝቅተኛ / አነስተኛ ደረጃ = 2 አጥጋቢ = 3 ጥሩ = 4 በጣም ጥሩ = 5

የማስተማሪያ ቁሳቁሶችና መሠረተ ልማት						
1	ሺዲዮና አኒሜሽን የመሳሰሉ የማስተማሪያ መርጃዎች በበቂ ሁኔታ ይገኙ ነበር።	1	2	3	4	5
2	የንድፈ-ሐሳብ እና ተግባራዊ ክህሎቶችን ለማሰልጠን የመምህሩ መምሪያዎች ፣ የላቦራቶሪ ማኑዋሎች፣ በበቂ ሁኔታ ይገኙ ነበር።	1	2	3	4	5
3	ሞዴሎች፣ ስንጠረገሮችና ቻርቶች የመሳሰሉ መርጃ መሣሪያዎች በበቂ ሁኔታ ይገኙ ነበር።	1	2	3	4	5
4	ለተማሪዎች ትብብር እና የቡድን ፕሮጀክቶች ተመቻችቶ የተዘጋጀ ቦታ ነበር።	1	2	3	4	5
5	ውጤታማ መማር ማስተማርን ለመደገፍ በቂ የመብራት፣ የድምጽ መቆጣጠሪያ አገልግሎቶች የያዙ መማሪያ ክፍሎች ነበሩ።	1	2	3	4	5
6	በጥናት ወይም በመማር ማስተማር ለደክመ ግለሰብ የመዝናኛ እና የአረፍት አገልግሎት መስጫ ማዕከላት ነበሩ።	1	2	3	4	5
7	ኮሌጁ የማየትና የመስማት ችግር ላለባቸው ግለሰቦች ምቹና እነርሱን ያማከለ ገፅታ ነበርው።	1	2	3	4	5

**2.4. የዲፕሎማ ምሩቃን መምህራን ስለ ኮሌጅ ትምህርት አመራሮች (ዲኖች፣ ስትሪም ኦፊሰሮችና የትምህርት ክፍል ተጠሪዎች) አፈጻጸም ጋር የተያያዙ ምክንያቶች ያላቸውን አመለካከት**

**መመሪያ:-** የሚከተሉት ጥያቄዎች ከ1-5 ባለው ደረጃ፣ የዲፕሎማ ምሩቃን መምህራን ስለ ኮሌጅ ትምህርት አመራሮች (ዲኖች፣ ስትሪም አፊሰሮችና የትምህርት ክፍል ተጠሪዎች) አፈጻጸም ጋር የተያያዙ ምክንያቶች ያላቸውን አመለካከት የሚለኩ ናቸው። በፕሮግራሙ ትግበራ ላይ ተጽዕኖ የሚያሳድሩ ምክንያቶችን በተመለከተ የስምምነት ደረጃህ/ሽን ከሚወክለው ቁጥር ጋር የሚዛመደውን ሳጥን በመክበብ ምላሾችዎን ያመልክቱ።

**ማሳሰቢያ:-** ቁጥሮቹ የሚከተሉትን ትርጉሞች ያመለክታሉ።

በጭራሽ = 1 በጣም በተወሰነ ጊዜ = 2 አንዳንድ ጊዜ/አልፎ አልፎ = 3 ጠቡቅ ጊዜ = 4 ሁልጊዜ = 5

No	ስለ ኮሌጁ ግብ ግንዛቤና የኮሌጁ ማህበረሰብ ጋር ያላቸው ግንኙነት					
1	የኮሌጁን ግብ ለመምህራን፣ ለድጋፍ ሰራተኞች እና ለዲፕሎማ ተማሪዎች ውጤታማ በሆነ መንገድ ያስተላልፋ ነበር።	1	2	3	4	5
2	የኮሌጁን ራዕይና ግቦች በተመለከተ ከባለድርሻ አካላት ጋር ቀጣይነት ያለው ውይይት ያደርጉ ነበር።	1	2	3	4	5
3	በኮሌጁ ራዕይ እና ግቦች ሰፊ ግንዛቤ እንዲኖር ለማድረግ በርካታ የመገናኛ ስልቶችን ማለትም የቴክኖሎጂ፣ የገጽ-ለገዕ እና የዕሁፍ ስልቶችን ይጠቀሙ ነበር።	1	2	3	4	5
4	በኮሌጁ ማህበረሰብ መካከል የሚፈጠሩ ግጭቶችን ያለ አድሎ ማዕከላዊ ሆኖ የመፍታት ባህል ነበራቸው።	1	2	3	4	5
5	ከተለያዩ የኮሌጅ ባለድርሻ አካላት የሚሰጠውን አስተያየት በቅንነት ይቀበሉ ነበር።	1	2	3	4	5
6	ኮሌጁ ከውጪው የህብረተሰብ ክፍል ጋር በሚኖረው ግንኙነቶች አዎንታዊ እና ሙያዊ በሆነ መልኩ ውክልናቸውን ሲወጡ ነበር።	1	2	3	4	5
<b>መማር ማስተማርን ማስተዳደር የመከታተል ብቃት</b>						
1	ከትምህርት ጋር የተያያዙ ችግሮችን በወቅቱ በመፍታት ረገድ ልዩ ክህሎት እና ብቃት ያሳዩ ነበር።	1	2	3	4	5
2	የማስተማር ችሎታን ለማሻሻል በአስተማሪዎች ዘንድ ሃሳብን በነፃነት የመግለፅ ልማድ እንዲጎለብት ያደርጉ ነበር።	1	2	3	4	5
3	በትምህርት ዙሪያ ውሳኔ ለመስጠት የሚረዱ ተግባራዊ ምርምር እና ምርጥ ተሞክሮዎች እንዲተገበሩ ይፈልጉ ነበር።	1	2	3	4	5
4	የዕጩ መምህራንን ውጤታማነት ዕውን ለማድረግ የተለያዩ የሽልማት እና የማትጊያ ስርዓቶችን ለኮሌጁ መምህራን ይሰጡ ነበር።	1	2	3	4	5
5	የመምህርነት ሙያና ፍላጎት ለማሳልበትና የተሻለ ለማድረግ የሚያስችሉ ድጋፎች በግምገማዎች አማካኝነት ይደረግ ነበር።	1	2	3	4	5
6	የኮሌጅ ተቋማትና ሀብቶች ለማስተማርና ለመማር ምቹ መሆናቸውን ያረጋግጡ ነበር።	1	2	3	4	5
7	በኮሌጅ ውስጥ ሁለን አቀፍ፣ አካታች እና እኩልነትን የሚያበረታቱ ፖሊሲዎች እና ልምዶች ነበሩ።	1	2	3	4	5

**ከኮሌጅ ቁጥጥር ውጪ ተጽዕኖዎች**

**መመሪያ:-** በኮሌጁ ውስጥ የመምህራን ትምህርት ዝግጅት ፕሮግራም ትግበራ ላይ ተፅዕኖን ለመገምገም የሚከተሉት ጥያቄዎች ተሰናድተዋል። ስለዚህ ከኮሌጅ ውጪ ያሉ እንደ ፖለቲካዊ፣ ኢኮኖሚያዊ፣ ማህበራዊና

ቴክኖሎጂያዊ ተዕዕኖዎች ዙሪያ ምን ያህል እንደተስማማህ/ሽ ወይም እንዳልተስማማህ/ሽ የስምምነት ደረጃህ/ሽን ከሚወክለው ቁጥር ጋር የሚዛመደውን ሳጥን በመክበብ ምላሾችዎን ያመልክቱ።

**ማሳሰቢያ፡-** ቁጥሮቹ የሚከተሉትን ትርጉሞች ያመለክታሉ።

በጭራሽ = 1 በጣም በተወሰነ ጊዜ = 2 አንዳንድ ጊዜ/አልፎ አልፎ = 3 ብዙውን ጊዜ = 4 ሁልጊዜ = 5

No	የፖለቲካ ምክንያቶች	Scales				
		1	2	3	4	5
1	በሀገራችን የፖለቲካ አለመረጋጋት የመምህራን ኮሌጆች ተግባራትን ሲያደናቅፍ ቆይቷል።	1	2	3	4	5
2	በኮሌጆችን የፖለቲካዊ ጣልቃ ገብነት ማለትም ድንገተኛ ስብሰባዎችና መሰል አጀንዳዎች ፕሮግራሙን ሲያዘቡ ነበር።	1	2	3	4	5
3	የመምህራን ኮሌጆች ሙስና ስልጣንን ያለአግባብ መጠቀም ምክንያት የወጡትን አዋጆች፣ ሕጎችና ደንቦች ተግባራዊ ማድረግ አይችሉም ነበር።	1	2	3	4	5
<b>የኢኮኖሚ ሁኔታዎች</b>						
4	በሀገሪቱ የተከሰተው የዋጋ ንረት የመምህራን ዝግጅትን መርሃ ግብሩ (በተማሪ፣ በመምህሩ፣ በአመራሩ) ላይ ተዕዕኖ ነበረው።	1	2	3	4	5
5	የኢኮኖሚ አለመረጋጋት ለመምህርነት ትምህርት ፕሮግራም የሚያስፈልገው በጀት አንዲቀንስ እና ድጋፍ እንዲያሸቆለቁል አድርጓል።	1	2	3	4	5
6	የት/ት ተቋማት መምህራንን ለመቅጠር የሚያሳዩት ውጣውረድ በመምህርነት ሙያ የሚመዘገቡ ዕጩ መምህራን ቁጥር እንዲቀንስ አድርጓል።	1	2	3	4	5
7	ከመምህራን ትምህርት ኮሌጅ ትምህርታቸውን አጠናቀው ያልተቀጠሩ መኖራቸው የመምህራን ዝግጅት ፕሮግራሞች አፈጻጸም ላይ ትልቅ ፈተና ፈጥሯል።	1	2	3	4	5
<b>ማህበራዊ-ባህላዊ ምክንያቶች</b>						
8	በኮሌጆችን ከፍተኛ የማህበራዊ ኢኮኖሚያዊ ደረጃ ያላቸው ቤተሰቦች የመጡ ተማሪዎች ከዝቅተኛ የኢኮኖሚ ደረጃ ከመጡ የተሻለ የትምህርት ውጤት ያስመዘግባሉ።	1	2	3	4	5
9	ከሥራና ሕይወት ሚዛን ጋር በተያያዘ የሚጠበቁ ማህበራዊ ግምቶች በመምህራን ዝግጅት ኮሌጆች የሰለጠኑ መምህራንን የማቆየት መጠን ሊጨምሩ ይችላሉ።	1	2	3	4	5
10	ማህበረሰቡ ልጆቻቸው በመምህራን የትምህርት ኮሌጆች እንዲማሩ ይፈልጋል።	1	2	3	4	5
11	በተማሪዎች መካከል ያለው የባህል ልዩነት የመማር ልምድን ያበልጽጋል እና በመምህራን ዝግጅት ፕሮግራሞች ውስጥ ሁሉን አቀፍ የማስተማር እንቅስቃሴዎችን ያበረታታል።	1	2	3	4	5
<b>የቴክኖሎጂ ምክንያቶች</b>						
12	ኮሌጁ በቴክኖሎጂ አጠቃቀም ረገድ ከፍተኛ ተነሳሽነት እንዲኖረው አሳማኝ ቅድመ ሁኔታ ነበር።	1	2	3	4	5
13	በኮሌጆችን ውስጥ የቴክኖሎጂ አጠቃቀም በመገናኛ መሳሪያዎች መካከል የመረጃ ትብብርን እና ትስስርን ቀላል አድርጓል።	1	2	3	4	5
14	እንደ ከፍተኛ ፍጥነት ያለው ኢንተርኔት፣ ዲጂታል ክፍሎች ያሉ የቴክኖሎጂ መሠረተ ልማት ማሻሻያዎች በመምህራን ማሰልጠኛ ኮሌጆች ውስጥ ኮርሶችን ማቅረብን ቀልጣፋ አድርገውታል።	1	2	3	4	5
15	በኮሌጆችን ውስጥ የትምህርት ሶፍትዌሮች እና አፕሊኬሽኖች የአስተዳደር ተግባራትን ያቀላጥፋሉ እና በመምህራን ዝግጅት ፕሮግራሞች ውስጥ በአስተማሪዎች መካከል ያለውን ትብብር ያሳድጋሉ።	1	2	3	4	5

**መመሪያ፡-** በኮሌጁ ውስጥ የመምህራን ትምህርት ዝግጅት ፕሮግራም ትግበራ አፈጻጸም ውጤታማነት ላይ የእርስዎን ስምምነት ወይም አለመስማማት መጠን ይጠይቃል። ምን ያህል እንደተስማማህ/ሽ ወይም እንዳልተስማማህ/ሽ የስምምነት ደረጃህ/ሽ ከሚወክለው ቁጥር ጋር በሚዛመደው በመክበብ ስምምነት-ህን/ሽን ግለፅ/ጫ።

ማሳሰቢያ፡- ቁጥሮቹ የሚከተሉትን ትርጉሞች ያመለክታሉ።

በጽኑ አልስማማም= 1 አልስማማም= 2 አልወሰንኩም= 3 እስማማለሁ = 4 በጣም እስማማለሁ= 5

የመምህርነት ዝግጅት መርሃ-ግብር ትግበራ ውጤታማነት						
1	በኮሌጁ ውስጥ የመምህራን የሥርዓተ ትምህርት አተገባበር አስተማማኝ እንደነበር እና ለመምህራን ትምህርት የሚደረገው ዝግጅት ውጤታማ እንደነበር አምናለሁ።	1	2	3	4	5
2	የዲፕሎማ ምረቃ መምህራን በመምህራን ዝግጅት ፕሮግራም ትግበራ እንዲሁም ባጠቃላይ ሙያቸው ረክተዋል ብዬ አስባለሁ።	1	2	3	4	5
3	የኮሌጅ የአካዳሚክ መሪ አፈፃፀም ጥሩ እንደነበር እና የአካዳሚክ ዝግጅት ፕሮግራሙ ውጤታማ እንደሆነ አምናለሁ።	1	2	3	4	5
4	በአንደኛ ደረጃ ትምህርት ቤቱ የመምህራን ዝግጅት ኮሌጅ ውስጥ ያለው የፖለቲካ የሥራ ሁኔታ ደህንነቱ የተጠበቀ እና ጤናማ እንደሆነ እርግጠኛ ነኝ።	1	2	3	4	5
5	በአንደኛ ደረጃ ትምህርት ቤቱ የመምህራን ዝግጅት ኮሌጅ ውስጥ ያለው ማህበራዊ እና ኢኮኖሚያዊ የሥራ ሁኔታ ደህንነቱ የተጠበቀ እና ጤናማ እንደሆነ እርግጠኛ ነኝ	1	2	3	4	5
6	በአንደኛ ደረጃ ትምህርት ቤቱ የመምህራን ዝግጅት ኮሌጅ ውስጥ ያለው የቴክኖሎጂ የሥራ ሁኔታ ደህንነቱ የተጠበቀ እና ጤናማ እንደሆነ ይሰማኛል					

ማስታወሻ፡- የገጽ-ሰገጽ ቃለ ምልልስ ፈቃደኛ ከሆኑ እባክዎን የኢ-ሜይል አድራሻዎን እና/ወይም የስልክ ቁጥርዎን ከታች ካለው ክፍት ቦታ ያስቀምጡ። አመሰግናለሁ!

የኢሜል አድራሻ \_\_\_\_\_ ስልክ ቁጥር \_\_\_\_\_

## APPENDIXE- D

### SEMI-STRUCTURED INTERVIEW PROTOCOL

This appendix provides the full semi-structured interview protocol utilized during the qualitative phase of the study. The protocol was developed to align with the explanatory sequential, mixed-methods design (Creswell & Plano Clark, 2023), focusing on contextualizing the quantitative findings, particularly the dominance of external PEST (Political, Economic, Social, Technological) factors, the minimal impact of internal college conditions, and the weak mediation effects ( $R^2 = 0.35$ ). The protocol emphasizes open-ended questions to elicit rich, narrative responses while allowing flexibility for probing based on participants' insights.

The interviews were conducted in a semi-structured format to encourage depth and diversity of views. Participants included 8 instructional leaders (academic deans, department heads, and program officers), 8 college instructors, and 4 diploma graduates teachers from Colleges A, D, H, and B. Selection was purposeful, drawing from quantitative phase respondents to ensure representation of institutional roles and experiences.

#### Interview Process Overview (From Beginning to End)

1. **Preparation and Scheduling:** Participants were contacted via email or phone using contact details provided during the quantitative phase. Interviews were scheduled at a mutually convenient time, typically lasting 45-60 minutes. Locations were neutral and private (college offices from college B via Zoom) to ensure confidentiality. Participants received an information sheet outlining the study's purpose, voluntary nature, and data handling procedures one week in advance.
2. **Introduction and Consent (5-10 minutes):**
  - Greet the participant and introduce myself as the researcher.

- Explain the purpose: “This interview aims to provide deeper insights into the quantitative survey results on Teacher Preparation Program (TPP) implementation, focusing on internal college factors and external PEST factors (political, economic, social, technological influences).”
- Discuss ethical considerations: Anonymity (using codes like “IL-A1” for Instructional Leader from College A, Participant 1), confidentiality, right to withdraw, with permission, and data.
- Obtain written or verbal informed consent.
- Build rapport: Ask a neutral icebreaker, foreexample, “Can you briefly describe your role in the college?”

### **3. Main Interview Body (30-40 minutes):**

- Use semi-structured questions grouped by thematic areas derived from quantitative findings (foreexample, resource gaps, PEST dominance, and mediation weaknesses).
- Probe for elaboration: Follow-up questions like “Can you give an example?” or “How does this relate to your daily experiences?” to explore recurring phrases “lack of resources,” “external pressures,” “low morale”.
- Allow flexibility: Questions could be reordered based on flow, and emergent topics (hidden variables like corruption or bias) were pursued.
- Take field notes on non-verbal cues or emphases.

### **4. Closing and Debrief (5-10 minutes):**

- Summarize key points: “From what you've shared, it seems [brief review about external factors often overshadow internal efforts].”
- Ask for additional comments: “Is there anything else you'd like to add?”
- Thank the participant and provide contact details for follow-up.
- Debrief: Explain next steps and offer a summary of findings upon request.

- Stop recording and ensure participant comfort.

#### **5. Post-Interview Procedures:**

- Analyze using Braun and Clarke's (2006) thematic framework: Familiarization, coding, theme generation, review, definition, and reporting.
- Total interviews: 20, conducted between September and October 2024.

### **Interview Questions**

Questions were organized into thematic sections to mirror the study's focus areas. Each section includes 3-5 core questions, with suggested probes. The protocol was piloted with 2 non-study participants for clarity and timing.

#### **Section 1: Background and Role in TPP Implementation (Icebreaker/Warm-Up)**

1. Can you describe your current role and how long you've been involved in Teacher Preparation Programs (TPPs) at your college?
  - Probe: What aspects of TPP implementation do you directly influence or observe?

#### **Section 2: Internal College Factors (Aligns with Theme 1: Structural Resource Gaps and Instructional Competency Constraints; Theme 2: Culture, Morale, and Institutional Hidden Variables)**

2. In your experience, how do internal factors like instructor competencies, teaching materials, and infrastructure affect the quality of TPP implementation?
  - Inquiry: Can you provide examples of constraints, such as “lack of teaching materials” or “inadequate infrastructure”?
3. How would you describe the organizational culture and morale in your college, and how do these influence program delivery?

- Probe: Have you observed issues like “low morale,” “bias in hiring,” “corruption,” or “lack of professional development”?
4. What hidden or immeasurable factors
- Do you think it impacts TPP quality but might not show up in surveys?
    - Probe: How do these interact with measurable factors like resources?

**Section 3: External PEST Factors (Aligns with Theme 3: The Pressure of the External World and the Preeminence of the PEST Factors; Theme 5: The Momentum of External Forces of Hierarchy upon Internal Efforts)**

5. How do external political and economic factors (forexample, government funding, policy changes, inflation) influence TPP implementation in your college?
- Probe: Examples of “political interference,” “unstable funding,” or “top-down regional bureau head directives”?
6. What role do social factors, such as societal attitudes toward the teaching profession, play in program outcomes?
- Probe: Have you noticed “social undervaluation,” “low salary, “or” damaged self-esteem” among educators or graduates?
7. How do technological factors (forexample, digital resources, ICT infrastructure) affect TPP delivery?
- Probe: Issues like “poor digital capability,” “power failure,” “non-functional computers,” or references to “Digital Ethiopia 2025”?

**Section 4: Mediation and Policy-Practice Disconnections (Aligns with Theme 4: Weak Mediation and the Broken Bridge between Policy and Practice)**

8. In what ways do internal college efforts mediate or create barriers against external pressures?

Probe: Why might internal changes be “reactive rather than strategic,” or why do they result in “weak mediation”?

9. How well do national policies align with on-the-ground realities in your college?

1.

- Probe: Examples of “policy-practice disconnections,” “fractured bridge,” or “failures of policy dreams”?

10. What adaptive strategies (forexample, local collaborations, informal mentorship) have you seen or used to overcome constraints?

- Probe: How effective are these in the face of “systemic barriers” or “external volatility”?

### **Section 5: Overall Reflections and Integration**

11. Overall, why do you think external factors seem to have a stronger influence on TPP quality than internal ones?

- Probe: Relate to quantitative trends like “dominance of PEST” or “moderate explained variance.”

12. What recommendations would you make to improve TPP implementation, considering both internal and external factors?

### **Similarities in Respondents' Answers**

To demonstrate patterns and enhance reliability, below is a summary of recurring words, phrases, and similarities across responses, grouped by thematic areas. These were identified through thematic coding (Braun & Clarke, 2006) and reflect convergence among participant groups (instructional leaders, instructors, graduates).

Quotes are anonymized and exemplify commonalities; full transcripts are available upon request.

- **Theme 1: Structural Resource Gaps and Instructional Competency Constraints:**
  - Recurring phrases: “Lack of teaching materials” (mentioned by 15/20 participants), “inadequate infrastructure” (14/20), “outdated pedagogical setting” (10/20), “theory-practice mismatch” (12/20).
  - Similarities: All groups emphasized systemic issues over individual faults. Leaders and instructors often linked this to “chronic underfunding,” while graduates highlighted practical impacts like “lack of laboratory chemicals” or “non-operational computers.” Convergence: 80% agreed internal factors are “structurally incapacitated,” explaining their minimal quantitative impact.
- **Theme 2: Culture, Morale, and Institutional Hidden Variables:**
  - Repeated phrases: “Low morale” (16/20), “organizational culture issues” (13/20), “bias in hiring/promotions” (11/20), “corruption” (9/20), “lack of professional development” (15/20).
  - Similarities: Leaders noted “government interference” as demotivating, instructors described “workload pressures” and “lack of recognition,” and graduates echoed “feeling trapped.” Convergence: 75% viewed these as “latent forces” or “hidden variables” that undermine trust and innovation, unmeasurable in surveys.
- **Theme 3: The Pressure of the External World and the Preeminence of the PEST Factors:**
  - Recurring phrases: “External pressures” (18/20), “political instability/interference” (14/20), “unstable funding/inflation” (16/20), “social undervaluation of teaching” (15/20), “technological shortcomings” (17/20), “poor digital capability” (12/20).
  - Similarities: All groups cited PEST as “irresistible.” Leaders referenced “top-down directives,” instructors “power failure/non-functional computers,” graduates “low salary/damaged self-esteem.” Convergence: 90% agreed that

PEST “shapes the field” for internal operations, aligning with quantitative dominance.

- **Theme 4: Weak Mediation and the Broken Bridge between Policy and Practice:**
  - Recurring phrases: “Weak mediation” (11/20), “policy-practice disconnections” (14/20), “reactive mode” (13/20), “fractured bridge” (10/20), “external volatility” (12/20).
  - Similarities: Leaders described “administrative biases,” instructors “depressing environment,” graduates “unpredictable situations.” Convergence: 70% noted internal efforts are “cushioned but limited,” explaining partial mediation and  $R^2 = 0.35$ .
- **Theme 5: The Momentum of External Forces of Hierarchy upon Internal Efforts:**
  - Frequent phrases: “External dominance” (17/20), “overwhelms internal capabilities” (15/20), “environmental interaction” (9/20), “systemic barriers” (16/20).
  - Similarities: Consensus that PEST “blocks policy intentions” and “erodes motivation.” Leaders emphasized “budget allocation,” others “professional identity.” Convergence: 85% recommended “dual strategy” for reform.

These similarities validate the themes and provide triangulation with quantitative data, showing consistent narratives across roles and colleges.

## APPENDIX- E

### CHECKLIST ON THE ANALYSIS OF DOCUMENTS

Systematic review of secondary documents based on this checklist was utilized to supplement the data of interviews and describe quantitative results (weak internal effects, PEST dominance, mediation gaps). A content analysis approach was used, in which the analysis was conducted on assumptions made in policy vs. the reality in implementation. It consisted of national/regional policies, reports, and institutional records of 2018-2025. Ten important documents were reviewed these are Ethiopian Education Roadmap 2018, ESDP VI 2020/21-2025, Education and Training Policy 2023, Digital Ethiopia 2025, ICT in Education Policy 2009, MoE reports 2021-2025, institutional inspection report on Colleges A, B, D, H).

#### Checklist Structure

Based on each document, the following criteria were assessed on yes/no/partially basis, with discussions on how relevant they are to themes. The focus of extraction was on quotes, assumptions, challenges, and discrepancies.

#### Document Identification:

- Title, author/source, year
- Type (Example policy, roadmap, report)
- Relevance to TPP: Does it deal with teacher preparation, quality, or implementation?  
(Yes/No/Partially)

#### Internal College Factors (Fits Themes 1 & 2):

Refers to instructor competencies, pedagogical competencies or professional development?

Tags: (Yes/No/Partially) it is based on the assumption that it is highly skilled but has gaps (Tesfaye, 2014 reference).

Talks about resources/infrastructure case labs, ICT, materials? (Yes/No/Partially)

Remarks: “Accepts shortages but has no solutions to them. Resolves organizational culture, morale, or latent variables (Example bias, trust)? (Yes/No/Partially)

Notes: “Indirectly through workload pressures.”

The External PEST Factors (Corresponds to Themes 3 and 5):

- Political Centralized policies, bureaucracy, and instability? (Yes/No/Partially) Notes: “High directives without consultation with the bottom-up direction.
- Economic: Financing, wages, organization of resources? (Yes / No / Partially) Notes: “Chronic underfunding; teaching as last-choice.)
- Social: teaching perceptions, cultural devaluation? (Yes/No/Partially) Notes: try to address stigma but no reforms.
- Technological: ICT ambitions/reality in digital integration? (Yes/No/Partially) Notes: “Supports Digital Ethiopia but says there is a lack of infrastructure. An example of a policy-practice gap is the need to engage with mentees and their families to improve the overall connection between these groups. Mediation and Policy-Practice Gaps (Aligns with Theme 4):
- Mediates between external pressures internally? (Yes/No/Partially) Notes: “Assumes that colleges can buffer, but does not take into account constraint. Outlines disjunctures (Example ideals vs. practice of policy)? (Yes/No/Partially) Notes: For example, visionary, shallow reforms.
- Have adaptive strategies or recommendations? (Yes/No/Partially) Notes: Foreexample, “Recommends training, but not systemic changes.

General Consistency with the Results of the Quantitative Study:

- Explains weak internal effects? (Yes/No/Partially) Notes: Foreexample, “Structural constraints compromise assumptions.
- Supports PEST dominance? (Yes/No/Partially) Notes: Foreexample, “Obstacles that are perceived as external, which are not surmounted.

- Explains unexplained variance (sunk costs)? (Yes/No/Partially) Notes: Forexample, “Indirectly, mentions morale. Gaps/Contradictions: Forexample, “Policy hopeful; practice indicates contradictions.”