Teachers' Utilization of Learners' Achievement Data in Improving Classroom Instruction in Primary Schools of Kutcha Woreda in Southern Nations, Nationalities and People's Region

Mekonen Gatiso Ganta

A Thesis Submitted to

The Department of Curriculum and Teachers' Professional Development Studies

Presented in Partial Fulfilment of the Requirements for the Degree of Masters of Arts in Curriculum and Instruction

Addis Ababa University

Addis Ababa, Ethiopia

June 2015

Addis Ababa University

School of Graduate Studies

This is to certify that the thesis prepared by Mekonen Gatiso, entitled: *Teachers' Utilization of Learners' Achievement Date in Improving Classroom Instruction in Primary Schools of Kutcha Woreda in* Southern Nations, Nationalities and Peoples' Region and submitted in partial fulfilment of the requirements for the Degree of Master of Arts (Curriculum and Instruction) compiles with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Internal Examiner ---------- Signiture ---------- Date ----------

Advisor ---------- Signiture ---------- Date ----------

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Acknowledgements

I would like to express my deepest and sincere gratitude to my advisor, Dr. Ambissa Kenea for his unreserved guidance, suggestions, scholarly comments and persistent encouragement which helped me to work diligently. Retrospectively, I loved his challenges as I ultimately believed that he instilled in me the spirit of hard work and patience behind the rigorous and skills of the research. I really appreciate his friendly approaches and genuine professional and technical advice which helped me for the completion of this study.

My deepest and heartfelt gratitude goes to my beloved wife W/ro Asnakech Asado for her persistent encouragement and moral and financial support throughout my study. I also extend my profound thanks to my son Ananiya Mekonen for his being in my heart with his babyish love in each and every activity of my study in the last two years of schooling. Still, my special thanks go to my father Ato Gatiso Ganta and to my brother Genene Gatiso for their unforgettable contribution morally and financially to my work.

I am very much indebted to College of Education and Behavioral Studies of Addis Ababa University for their financial support of this study; and also to Kucha Woreda administration office for their encouragement in different ways for the study. I would like to extend my gratitude to Selamber Primary and Secondary Schools for their support in copying and printing different data collection instrument copies and check-lists.

Further, I would like to express my sincere gratitude to all pupils (teachers, principals and department heads) and Kucha Woreda education office for their contribution in providing me the required data and information for the study.

Finally, I would like to thank my friends who contributed their persistent encouragement until I completed my study.

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ABSTRACT

Teachers' Utilization of Learners' Achievement Date in Improving Classroom instruction in Primary Schools of Kutcha Woreda in Southern Nations, Nationalities and People's Region

Mekonen Gatiso Ganta

Addis Ababa University, 2015

The purpose of this study was to assess the teachers' utilization of learners' achievement data to improve classroom instruction in primary schools of Kucha Woreda in SNNPR government. The survey was administered to 173 participants. The study used a range of data collection methods including: open- and closed-ended questionnaires, semi-structured interviews and document analysis. 123 primary school teachers who were selected by simple random sampling techniques answered to the questionnaire. 20 teachers, 20 department heads and 10 principals were interviewed. Descriptive statistics (frequency, percentage, mean, standard deviation) and independent t-test and analysis of variance (one way ANOVA) were applied to investigate teachers' achievement data generation, analysis and utilization as well as to identify factors that affect their practice at primary schools in the study area. The finding of the study revealed that teachers utilize properly the achievement data. On the other hand, primary teachers do have lower practices on the data generation through paper and pencil test and inadequately analyze achievement data using graphs. There is also statistically significant difference between certificate, diploma and degree teachers towards achievement data processing. Finally, teacher-related, principal-related and school-related factors greatly influenced teachers' achievement data utilization in the primary schools of the study area On the basis of the above finding, it is suggested that teachers need to have training on the practices of achievement data generation, processing and utilization to fill the gap where they perform poorly.

CHAPTER ONE

INTRODUCTION

This chapter deals with the background of the study, statement of problem, basic research questions, objectives of the study, significance of the study, delimitation of the study, limitation of the study and operational definition of the study.

1.1. Background of the Study

In this era of globalization and technological revolution, education is considered as the first step for every human activity. It plays a vital role in the development of human capital and is linked with an individual's well-being and opportunities for better living (Battle & Lewis, 2002). It ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life. This increase in productivity also leads towards new sources of earning which enhances the economic growth of a country (Saxton, 2000 and Farooq et. al. 2011). As educators face increasing pressure from federal to local accountability policies to improve student achievement and teachers' teaching practice, the use of achievement data has become more central to many educators as well as teachers to evaluate their practices and monitor students' academic progress (Aarons, 2009). Despite this trend, questions about how teachers should use achievement data to make instructional improvement remain mostly unanswered. The framework provided by Hamilton et. al., (2009) suggested that achievement data support instructional decision making, create the organizational conditions that foster effective use of these data and assess the availability of such data has led many to strengthen the role of data for guiding instruction and improving student learning. However, more data are available in schools, the question of what to do with the data also remains primarily unanswered (Hamilton et. al., 2009). So, it is interesting to explore teachers' use of achievement in improving classroom instruction and to identify factors affecting the quality of teaching/learning process.

The No Child Left Behind Act of India (2002) has significantly raised the profile and the stakes of both research evidence and student achievement data. It focuses on the points that schools must show curriculum adoption, instructional programs, professional development, instructional improvement and other forms of support to schools are rooted in "scientifically based research" which is also used as evidence. In addition, schools are required to collect and analyze achievement data and use them as a basis of evidence for decisions related to instructional improvement. The work of Archer (2005) quoted in Cynthia and Joan (2006) emphasized the school districts hold this vision of evidence based educational improvement and concluded that the use of data to guide instruction as the most important strategy for improving student achievement.

For teachers, the use of evidence to improve teaching and learning process in their classrooms is the main activity. They need information about what their students know and can do, evidence about their own practice and its impact on students, and knowledge of the research evidence and that from other established sources to give direction for improvements to classroom practices. Besides, teachers need the support of well informed leaders who have sufficient knowledge both to lead teachers' evidence-informed inquiry and to engage in their own inquiry into the effectiveness of their practice in promoting teacher and student learning (Timperley, 2008).

The process of gathering information about achievement data related issues and successive use of that information to address the specific educational instruction is one way for educators to work together to reach a common goal; which is to see every student success in their learning. The teachers' use of achievement data may be influenced by different teacher-related factors, principal-related factors and school-related factors If these barriers to successful data use are reduced, the cooperation that arise from school leaders' and teachers' use of achievement data to plan for improvement can strengthen the links between school culture, teaching practice and success for students.

Achievement data systems are also expected to play an integral role in supporting instructional improvement at all levels including that of the classroom teaching. If data-driven instructional decision making is to become an effective tool for improving the instruction provided to students, policymakers and other concerned bodies need a clear understanding of these data systems used at the local levels for improvement processes in schools and districts (Barbara et. al., 2010).

Hence, it is expected that teachers engage in a chain of processes which involve three very essential stages: generating students' achievement data, processing that data and making use of the data in their teaching. The present study is concerned with appraising how well teachers in Kucha Woreda of SNNPR do this.

1.2 Statement of the Problem

The issue of using student achievement data to improve data-based decision and instruction (i.e. teaching-learning process) has attracted the attention of researchers (for instance, Amanda, Vicki and Priscilla, 2006; Hamilton et. al., 2009; Lachat and Smith, 2005). Amanda and associates researched teachers use of student achievement data in secondary school. They identified that resistance of school system; difficult political circumstances and the organizational complexity of secondary schools as major challenges to teachers' use of student achievement data to improve instruction.

Hamilton et. al. (2009) found that regular professional development around data use and analysis are not widespread, and evidence-based instructional decision is not up to the expected standard. Lachat and Smith (2005) found that lack of information at the right time and in the right formats as a major barrier to the data use in the schools, students with low attendance rates were performing at the failing levels, the practice of collaborative data use is a potent strategy for building staff skills and the use of data was strongly influenced by the leadership of the principal, other administrators and teacher leaders in the high schools. However, there is scarcity of researchers on teachers' utilization of achievement data to improve classroom instruction improvement in Ethiopian context. Thus, to fill this gap, the present study focused on the extent of teachers' practices of generating, processing and using students' achievement data in improving classroom instruction. In addition, this study focused on identifying the teacher-related, principal-related and school-related factors teachers' use of student achievement data in selected primary schools of Kucha Woreda in SNNPR.

1.3 Basic Research questions

The study attempted to answer the following five fundamental research questions:

1. To what extent do teachers generate student achievement data in primary schools of Kucha Woreda?
2. To what extent do teachers process student achievement data in primary schools of Kucha Woreda?
3. To what extent do the teachers use student achievement data to improve classroom instruction?
4. Is there any statistically significant difference among the teachers in terms of utilization of students' achievement data as a result of their sex, level of education, and years of teaching experience?
5. What factors influence the utilization of student achievement data as an evidence for instructional improvement in primary schools?

1.4 Objectives of the Study

The general objective of this study is to assess teachers' utilization of students' achievement data to improve classroom instruction. The specific objectives of the study are:

1. To understand whether teachers generate students' achievement data to improve classroom instruction in primary schools of Kucha Woreda.
2. To assess the extent of teachers' practices in student achievement data processing for classroom instruction improvement.
3. To understand the extent teachers' utilization student achievement data in improving classroom instruction.
4. To sort out what teachers' attribute variables are associated with teachers' use of students' achievement data.
5. To identify possible factors (other than the attribute variables) which influence teachers' use of students' achievement data to improve classroom instruction.

1.5 Significance of the Study

The findings from the study are believed to have the following significance:

1. The study could enable educational decision-makers at local district (Woreda Education office, school administrators, parents, teachers and students themselves) to give valuable information on the actual status of teachers' practices on data generation; processing and utilization to improve classroom instruction.
2. The study could be the source for the local policy initiation to use the student achievement data as evidence to improve the teaching-learning process in schools.
3. The knowledge that was gained from this study is useful for designing strategies that might help to improve the use of achievement data and thereby increase the quality of classroom instructional process in primary schools.
4. The study could also be interesting to different organizations (governmental, non-governmental and other funding agencies) that are working on the quality of education especially on the improvement of instructional decision by using achievement data as an evidence of instruction.
5. The study may serve as spring board for further researchers on the areas of student achievement data.

1.6 Delimitation of the study

The scope of study was delimited to assess teachers' utilization of learner achievement data in improving classroom instruction in selected primary schools of Kucha Woreda in Southern Nations, Nationalities and People's region, SNNPR. The study was also delimited to ten randomly selected primary schools in Kucha Woreda. The Woreda was selected as the study area because there was no research conducted to investigate the problems yet. Besides, the selection of the study area is based on the researchers' working experiences in some of primary schools that helped him to sense the problem and facilitate the research process.

1.7 Limitation of the study

This study has its own limitations. The following were some of the limitations that contributed to the limitation of the study.

1. Absence of up-to-date and adequate research materials which have been done in Ethiopian context is found to be the limitation of the study. It limited the researcher to understand the extent of achievement data utilization in the context of Ethiopian primary schools.
2. Time constraint is also another problem; to obtain data from ten sample schools under the study, it has taken a lot of time.

To overcome these problems, the reviews of related literature of other countries were used or referred. In addition, extra-time (for instance, weekend and free time) was used to collect data. By taking these possible efforts, the study was completed successfully on time.

1.8 Operational Definition of Key Terms

Achievement: it is the students' performance as indicated by their scores on a test constructed by subject teachers on the basis of the content they learned.

Achievement Data Generation: refers to the process of generating student achievement data by using different assessment techniques like test, class work, homework, assignment, observations, different student works.

Achievement Data Processing: refers the process of analyzing student achievement data that allows teachers to identify the strength and weakness of students in the classroom.

Utilization of Achievement Data: refers the teachers' practices to inform instruction, to identify student needs, to assess the class as well as the individual student progresses in the classroom.

Teacher-Related factor: is a factor/challenge that comes from the teacher's personal performance and affects their utilization of achievement data in improving classroom instruction.

Principal-Related factor: is a factor/challenge that comes from the principal's personal performance and affects the teachers' achievement data utilization.

School-Related Factors: refers a factor which affects teachers' achievement data use for which school is the source.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

This chapter devoted to treating some important issues which are related to teachers' practices of utilization students' achievement data to improve classroom instruction in primary schools. The topics to be dealt with are: evidence-informed instruction, students' achievement data, the relationship between achievement data and instruction, type of student, generation achievement data, processing of achievement data, effective utilization of achievement data and some factors affecting teachers' practices of utilization of achievement data.

2.1 Evidence-Informed Instruction

Evidence is essential information for every activity in education which is acquired through meta-analysis of educational research and the scientific evaluation of programs and practices. In educational instruction, it is taken as likely to shape students' learning in the classroom in different ways such as teaching method, assessment techniques, data generating and utilizing in the schools (Cynthia and Joan, 2006). Every education policies also place unique demands on school districts to use evidence to guide their educational improvement efforts. How school districts respond is likely to be influenced by how teachers in the school use student achievement data as evidence in their ongoing instruction and assessment practices. Whitehurst (2002, p.16) defined its importance in the instruction as "Evidence-informed instruction is the integration of professional wisdom with the best available empirical evidence in making educational decisions about how to deliver instruction". In school and classroom context, students' achievement data is taken as the main evidence of students' progress in their learning and also an evidence for teachers to check the attainment of their instructional objectives; because evidence-informed instruction is taken as data-informed instruction in education.

Data-informed instruction is a process of collecting and analyzing data from multiple sources to inform teachers on their instructional steps or procedures. Achievement data gathered from multiple sources evaluate student progress in various ways; create a more complete picture of student learning and classroom instruction Educators use these

multiple types of data every day from formative benchmark to classroom grades, subjective evidence and teacher observation to understand the progress of their individual students. Use of these data in this way also allows educators to be reflective practitioner, monitoring their own teaching practices and growth. Incorporating achievement data into the instructional structure of classrooms is not new, yet with the amount of data available to educators, students and teachers require a new lens with which to view and incorporate key student data into teaching and learning (Wisconsin Public Instruction, 2010).

In addition, Cynthia and Joan (2006) drawn an article on sense-making and institutional theory to investigate conceptions or the origin of valid evidence, evidence use, and research-based practice among different community and suggested that individual conceptions of valid evidence, evidence use, and research-based practice are situated in and constituted school contexts.

A few studies also provide clues about conceptions of evidence especially differences in assessment data utilization among individuals in school districts. For example, Light et al. (2005) cited in Timperley (2008) suggested that because of their different roles and responsibilities, teachers and school administrators experience assessment pressures differently and thus differ in their views of the appropriate use of its data. Furthermore, the author also noted that what is involved is the integration of several kinds of evidence: (1) evidence of teachers' own knowledge and skills so that the evidence about students can be interpreted in terms of the implications for teaching practices (2) knowledge of data collection, interpretation and analysis and other evidences to practice the use of data to direct their instruction.

2.1.1 Evidence of Teaching and Student Learning

Evidence is used to evaluate and improve educational programs and practices. To make the evidence of student learning valid; technical properties of assessment data, alignment with valued academic outcomes, insight into thinking and reasoning and teachers' judgment are mainly considered. Most of people placed primacy on the technical properties of assessments as criteria of valid evidence of student learning,

pointing to such things as the consistency of student achievement data, their predictive validity, and their ability to measure change over time. Besides, Educators look evidence of student learning in terms of its link with grade-level outcome standards in particular subject areas. They consider evidence as useful if the assessment measures what is being taught and tested in the school to measure basic skills and understandings of students. To insight students into thinking and reasoning, information about student performance is an important. Teachers' judgment also emphasizes the strength of teachers' observations of students in the classroom. Teachers are holding this view on the degree of assessing students understanding in the course of ongoing instruction and the unique ability of teachers to make connections between instruction and student reactions in the classroom.

2.1.2 The Use of Evidence in the Student Learning

Many people saw the main use of evidence on student learning as evaluating educational decisions including instructional improvement. The local data that generated by formative assessment are seen as valuable in providing a rigorous picture of how the teachers and school are making decisions to improve instruction at class level. The use of data evidence informs students' placement by making data-based decision. Teachers have a tendency to visualize learning in terms of students' sequential improvement of skills and teaching as the matching of instructional programs to particular skill levels. In addition, using evidence of student learning is given an emphasis to adapt instructional approaches to learner needs. In this view, learning is not only acquiring a sequence of skills but also the active process of constructing, understanding and building on students' prior knowledge (Cynthia and Joan, 2006, pp.474-475)

2.2 Types of Student Data

Schools and teachers encounter many types of data in the typical school year. These common types of students' data are achievement data; demographic data, program data and behavioral metrics that monitor students' background, attendance, social and behavioral issues, retention, and dropout rates (Learning Points Associates of North

Central Regional Educational Laboratory, 2004). From these, the prominent type of data is achievement data. Many schools and teachers use achievement data collected from different sources like semester results; performance tasks, classroom-level activities and assessments (e.g. quizzes, home works, observations, tests, etc.) to serve as a source to assess students' performance and they can also administer these data more frequently to monitor classroom instruction, students' progress and to screen different difficulties in the school. Compared to other types of data, achievement data is mainly provided by formative assessments clearly receives the most systematic attention within improving teaching and learning in the classroom. Because it is one of the most popular types of student outcome data which is designed to test students' knowledge and skills that are earned by the professional teachers. As the Learning Point Associates (2004) stated that student achievement data are the most important type of data to focus on education. For instance, a comprehensive assessment plan can make use of achievement data from the data sources such as ongoing classroom assessment data. This ongoing assessment is the heart of assessment that is occurred in the classroom for continuous improvement of teaching and learning by providing feedbacks and used as evidence in a continuous manner through the academic year. Earl (2005) identified potential sources of data about student achievement: (a) questioning in class; (b) performance and standards-based assessments, (c) teacher-made tests, quizzes, assignments, homework, class work, (d) teachers' observations and (e) student work such as project work, group work, presentations, field work, etc. (Australian Council for Educational Research for the NSW Institute of Teachers, 2008).

2.3 Students' Achievement Data

In the context of education, achievement data is information that is used to indicate student progress and teaching practice in the classroom. Hence, information can be regarded as "organized achievement data" about student needs and progresses in their learning. Information about classroom instruction is derived from organizing, displaying and transforming assessment data. This information is an essential component of discovering knowledge and skills from achievement data that is used to improve teaching and learning process. Data can be words, numbers, or observations that are systematically collected usually for a purpose of instructional decision and improvement. Characteristics of good achievement data is its potential to help teachers

make good instructional decision about students' learning. Good achievement data can be defined as: (1) data are reliable and valid predictors of future student achievement, and are an accurate measure of change over time, (2) data are aligned with valued academic outcomes, like grade-level outcome standards, (3) data provide insights into student thinking and reasoning and (4) data are valid and based on teachers' activities and judgment (Christina, 2008).

2.4 Relationship between Achievement Data and Classroom Instruction

Today, achievement data and instruction are becoming more closely linked in the schools. Moreover, it is interesting that much of the current movement toward using achievement data to improve instruction actually first focused on assessments being used to rank schools and students, is also increasingly being incorporated into schools' instruction improvement efforts (Nancy, 2009). Student achievement data also offers precious support for making good decisions about instructional improvement, but how that data are used is very critical. Gail and Michael, (2011) outlines some suggested points that help teachers and principals put student achievement data to the best possible use such as making data part of the ongoing cycle of instructional improvement; teaching students to examine their own data and set learning goals; establishing a clear vision for school-wide data use; and providing supports that foster a data-driven culture within schools.

In addition, to improve classroom teaching and learning process in instruction and to increase the quality of data-based instructional decision making for all data-based activities in the school, using formative assessment data are more preferable. As Glaser and Silver stated that one specific type of data-based decision making that shows guarantee for helping schools increase student achievement is the use of formative assessment data to drive instructional improvement in the class. As achievement is more closely linked with instruction, there is an integral to classroom learning rather than imposed by some external shaper of students' outcome (Glaser and Silver, 1994).

2.5 Generating Students' Achievement data

Achievement data generation is a process that is used to produce student achievement data through various assessment techniques in the process of teaching and learning. Assessment is a continuous process that provides insight into student learning, gives teachers a basis for making instructional decisions and modifying teaching methods, and helps in assigning grades. The best assessment also serves as learning opportunities for students. It is also a technique for gathering data on the teaching and learning in the classroom that will help teachers to assess both students' learning and their own teaching (Angelo, et. al., 1993). The purpose is to understand the assessment information used by a group of teachers to guide their teaching process. Assessment policy in New Zealand Ministry of Education in 2001 states that the primary purpose of assessment is to generate assessment data, to improve students' learning and the quality of learning programmes. When thinking about assessing instruction, teachers require: (a) assessment to design course goals and outcomes, (b) formative assessments that can be used to inform instructional practices and to give students frequent advice without worrying about grades, (c) summative assessments that can be used to gather information on student learning in order to assign a grade (d) assessments as tools to generate achievement data for improving teaching and learning.

Furthermore, assessment is thought as formative and summative activities to generate student results. Summative assessment that was undertaken at the end of teaching a topic or unit of work and used to judge the achievement of a student in a specific topic at a specific time. Formative assessment is used to evaluate student learning on an ongoing basis and to use the information to promote that learning. Recent research into the nature of assessment is as a more formative process that is designed to promote teaching and learning (Timperley, 2004).

A. Summative Assessment

Summative assessment is an assessment that is used for final decision or judgment but not for evaluation of ongoing classroom teaching and learning process. It is used to evaluate progress and final achievement, assign grades, evaluate programs and prove

teaching and learning practice. Summative assessment measures are those which are graded and judge student ability and teachers may use it not for improving present classroom learning but for future students' learning and planning. It includes final exam, final projects, portfolios, grades; standard tests (Donna, 2001).

Teachers come to know their students in relation to the student's own previous performances without comparison to others and, therefore, focus on creating an instructional match between students' current knowledge and their teaching activities. Both teachers and students are more likely to focus on learning process knowledge when the constraints of having to assign a final grade are removed. If summative, assessments are likely to be grade or mark oriented rather than informing the learning process and the understanding of how the taught skills and knowledge are being used by students (Black & Wiliam, 1998a). The accountability overtones of summative assessment may also lead teachers dwelling on the deficiencies of the students rather than thinking about how to develop further the students' current achievement levels. Hence, summative process is more likely to lead to teachers giving specific feedback on assigning a grade at the end of a unit of work (Black & Wiliam, 1998a) rather than improving ongoing progress of students during instructional process (Timperley, 2004).

B. Formative Assessment

Formative assessment is a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes (McGraw, 2008). No Child Left Behind Act (2001) noted the strategies of schools for building skills of younger learners for that the use of student data to inform teaching and, in turn, to improve learning has often been identified as a potentially powerful educational tool. In addition, one of the prominent means of generating such data is the use of formative assessments tests or activities that measure student learning and provide feedback to teachers that they can use to adapt their teaching practices to meet student needs. According to Janet et. al. (2008) the use formative assessment is taken as source for generating student achievement data and curriculum takes them as the main source of evidence about their students' progress. To improve their practices of data use and to increase the quality of

classroom instruction, formative assessment is more preferable than summative assessment. Walton (1986) and Deming (2000) quoted in Richard et. al. (2005) said data-driven instructional systems convert the results of summative testing into formative information/data to use it for improving teaching and learning in schools.

Since effective teaching and learning process requires continuous assessment and ongoing feedback to gather relevant information/data, provide opportunities to sort through the data, and to structure the classroom, using formative assessment is a fundamental to produce achievement data. Besides, the concept of frequent or formative feedback is central to the quality education movement. It produces learner-focused iterative evaluation designed to create ongoing timely flows of information used to improve both teaching and learning process across the school (Richard et. al., 2005).

2.6 Making Achievement Data Part of an Ongoing Cycle of Instructional Improvement

According to the panel written by Hamilton, et. al. (2009) in U.S department of education, teachers agree to a systematic process for using achievement data in order to bring evidence to bear on their instructional decisions and improve their ability to meet students' learning needs. The process of data use to improve their classroom instruction and student learning can be understood as cyclical form of collection and preparation a variety of achievement data, its analysis and modification of their classroom instruction to increase student learning. Similarly Gail and Michael (2011) suggested that achievement data use is an ongoing cycle of collecting assessment data from different sources, analyzing that data and putting modification or changing into practice in the classroom and providing feedback to improve student learning. Collaboration among teachers in each step of the data-based inquiry process can maximize the benefits of data use by helping teachers share effective practices, adopt collective expectations for students' performance, gain a deeper understanding of students' needs and progress, and develop effective strategies to better teaching

After preparing data, analyzing the data and developing hypotheses about factors contributing to students' performance and the specific actions they can take to meet

students' needs are coming next. Following testing hypotheses by implementing changes to their instructional practice, teachers are going to restart the cycle by collecting and analyzing new student performance data to evaluate their own instructional changes (Abbott, 2008).

2.6.1 Collection, Preparation and Storage of Achievement Data

To gain a strong understanding of students' learning needs and instruction strength, teachers collect achievement data from a variety of sources such as annual reports of achievement data, classroom assessment data, class work and homework, observations, assignment and classroom project works that are gathered by teachers to carry out data collection depends on considering the strengths and weaknesses of each data type and on preparing data in a format that can reveal patterns in student achievement. It is believed that multiple data sources are important because no single assessment provides all the information teachers need to make informed instructional decisions. For instance, as teachers begin the data-use process for the first time or begin a new school year, the accessibility and high-stakes importance of students' annual assessment results provide a rationale for looking closely at these data. These previous annual assessment data can be useful for understanding broad areas of relative strengths and weaknesses among students, for identifying students or groups of students who may need particular support from the beginning to set school-wide, class-level or department-level goals for students' yearly performance (Hamilton et. al., 2009). An important advantage of these students' achievement data sources is providing teachers with immediate feedback about student learning and to compile the achievement data and revealing discrepancies in expectations and content coverage that teachers can take steps to remedy (Wayman and Stringfield, 2006).

In addition, data storage cannot also be unplanned. Files, achievement reports, assessment scores and subsequently recorded data need to be stored systematically, easy-to-access and clearly labeled hard copy files. This allows trouble-free retrieval and review of achievement data along with records of previous data analysis sessions. In addition to student academic achievement data, parallel school data sets need to be gathered and analyzed to inform what changes must occur to make it possible for

student learning to improve. Measures such as student demographics, attendance, school processes, programs and protocols contribute to building a comprehensive picture of a school's culture in improving classroom instruction. Understanding these data sets will allow schools to build a big picture view so that teachers and school leaders can reflect on their practices, decide on and bring about change to improve their performance. So, collecting, preparing and storing achievement data for analysis will be easier for teachers who have access to the kind of school-wide data systems that teachers still will need to maintain useful records of classroom-level data which is used as a source of information for instructional improvement.

2.6.2 Processes (Analysis) of Students' Achievement Data

Analyzing achievement data allows teachers to identify the strengths and weaknesses of a whole class as well as individual students (Gail and Michael, 2011). The achievement data also need to be analyzed to learn whether or not the criteria on the student learning outcomes were met. To give meaning to the information that has been collected, it needs to be analyzed for context, understanding, and to draw conclusions about the progress of student performance. This step makes the information meaningful and is essential to effectively communicate and utilize the achievement data. This process includes determining how to synthesize and organize the data, interrelate and compare with the previous achievement results, and present that data. These decisions are guided by what achievement data questions are asked, the types of achievement data that are available, as well as the needs and wants of the audience/stakeholders. To analyze these data, establishing sound performance standards, collecting clear information, commitment to improve teaching and learning, etc. are some basic criteria in this step (Linda, 2005). The careful analysis of achievement data required teachers to think about new ways to diversify instruction in the classroom. As teachers analyze the data, they can develop solutions about factors that affect students' learning and ways to improve instruction to help all students achieve (Gail and Michael, 2011). Teachers also analyze the data they have collected and prepared from different assessment sources, to identify students' performance and also to adjust their instructional methods, assessment tools and feedback in ways that address those students' needs (Lachat & Smith, 2005).

Triangulating student achievement data from different data sources is used to illustrate the areas of strengths and weaknesses of students or to allow the achievement levels of students and to develop solutions about ways to improve the instructional and achievement patterns they see in the data. It also can be thought of as using each data source to test and confirm evidence from the other sources in order to arrive at well-justified conclusions about students' learning needs. Putting as many of the assessment together will produce a clearer picture of what is happening in the classroom and school and what specific actions are required to improve results. When multiple data sources show similar areas of student strength and weakness, teachers can be more confident in their instructional decisions about which skills to focus on. In contrast, when one test shows students struggling in a particular skill and another test shows them performing well in that skill, it addresses teachers to look closely at the items on both tests to identify the source of the discrepancy. In all cases, teachers are mainly using classroom achievement data to shed light on the particular aspects of the skill with which students need extra help. To foster such sharing of effective practices among teachers, it is important to interpret data collaboratively in grade-level or department-specific teams. In this way, teachers can begin to adopt some common instructional and assessment practices as well as common expectations for student performance (Halverson et. al., 2007).

2.6.3 Modification of Instruction by Reflecting Achievement Data

Reflection takes place after the data discussions during its interpretation and leads to reveal new knowledge and understandings about the sequence of learning involved in concept development. This will guide instructional decisions about changes or adjustments to the types of classroom approaches and practices, strategies and resources already in use. After discussing the interpreted achievement data, teachers must be open to and responsible for reflecting about their own practice, to change their teaching methods.

Based on the reflection of data, teachers carry out the instructional modification that they believe are likely to raise students achievement. Some kinds of changes they choose to implement may include allocating more time for topics with which students

are struggling; better aligning performance expectations among classrooms or between grade levels; attempting new ways of teaching difficult or complex concepts, especially based on best practices identified by teaching and designating particular students to receive additional help with particular skills that they lost. An instructional modification must take place collaboratively to find it useful to seek feedback from peers before implementing it. This is particularly true if teachers have chosen to enact a large instructional change in the classroom.

Therefore, any teacher who collects achievement data and does not use it to guide further instruction is losing valuable opportunities to improve their own teaching and help their students reach higher levels of achievement. The changes in teaching that are likely to be effective will depend on what has been revealed in the data and thinking that is part of data analysis and improvement planning.

2.6.4 Providing Feedback to students and classroom

Explicit feedback delivered face-to-face open possibilities for powerful leaning. This is more powerful when the process includes teaching the student how to analyze and use the generated data from previous learning. When students know and understand what it is that they are expected to learn, how this present learning connects to their previous learning, how learning will be assessed and how they can participate in the process, they are more likely to be actively engaged in learning.

Through their instruction, teachers are responsible to provide timely, specific and constructive feedback to students that help them understand their strengths and weaknesses and to identify specific areas for improvement. This feedback comes from use of achievement data that is generated through formative assessment in the classroom. Students also need time and tools such as teacher- and student-generated graphs and reflective questions guide students' data analysis and help them analyze their achievement data and make data-based instructional decisions to improve their performance (Gail and Michael, 2011, p.5).

2.7 Effective use of student achievement data

The use of achievement data to inform instruction, to identify student needs and to assess the whole school as well as individual progresses is a general priority in the schools to improve teachers' teaching, and students' learning and their achievement (Janet et. al. 2008). Studies indicate that effective use of data to make decisions enhances the ability of classroom to become learning environment by directing continuous improvement efforts (Datnow et.al. 2007). First, data inform instructional strategies which help teachers decide how to pace their instruction, align their lessons to standards, identify lessons for re-teaching, guide their flexible grouping of students, and target students for involvement (Datnow et al., 2007). Second, data help to set and refine concrete goals (Supovitz and Klein, 2003). Plus, data can shed light on a discrepancy between grades and test scores which might indicate a need to re-examine grading practices. Third, data driven practices can foster a culture of inquiry and work to reinforce school priorities by providing information that aids communication amongst teachers, students, parents, and the rest of the school community (Datnow et. al., 2008)

In addition, all achievement data in schools and classrooms can be used together to create rich analyses of students' learning and school experience for several purposes. First, teachers may use this data in the classroom to make formative changes in instruction, give feedback to students, and measure their progress (Black & William, 2009). Second, schools may use it instrumentally (Ikemoto & Marsh, 2007) to make decisions such as where to target resources, how to track students, or how to assign students' progress. Finally, schools and teachers may use data for inquiry into trends in students' achievement. To strengthen this Supovitz & Klein (2003) suggested that the formative use of achievement data in the classroom has become a crucial part of the student process, the inquiry process may form a basis for all school-wide data use (U.S National Council of Teachers of Mathematics, (NCTM), 2010). In addition to these, achievement data is used to improve classroom instruction, to understand students' needs, to foster students' engagement in the classroom, for data-driven decision making.

i. To improve instruction (classroom teaching and learning)

As Earl (2005) suggested that using data to support learning has recently become a matter of significant interest in schools. In the past several decades, a great deal has changed information from theory to practice. The 21st century has been called the 'information age'. There has been an exponential increase in data and information, and technology has made it available in raw and unedited forms in a range of media. The purpose of using student achievement data is to improve the learning of one or more particular students in the classroom. That is, the individual teacher and the school take the students who come to them and seek to improve the learning of those students. Hattie (2005) in his study notes that schools are saturated with data. He also said that the discussion about using achievement data needs to be located in the classroom, to support such evidence-based teaching and learning. By locating evidence in the classroom teachers can influence the major agent that influences students' learning.

ii. To Foster Student Engagement in the Classroom

Using achievement data as an evidence of instruction to improve classroom teaching and learning is an important to promote student engagement in the classroom. Teachers are key players in fostering student engagement. They work directly with the students and typically are the most influential in a student's educational experience. Creating a culture of achievement in their classroom, developing interactive and relevant lessons and activities, and being encouraging and supportive to students are all ways in which teachers can foster student engagement in the classroom to increase their achievement and learning. Improving student engagement must be at the heart of the efforts to improve instruction. Sharing assessment data with students in the classroom is appeared to enhance students' ownership of their goals and plans for improvement, and motivated to improve teaching and student learning through the use of data invited students to play an active role in contributing to their academic growth and learning environment (Amanda, Vicki and Brianna, 2008).

In addition, improving student engagement is the centre of the learning process and at the heart of data-driven instruction. Hence, an effort to improve teaching and learning with the use of data must account for the ways in which students play an active role in

contributing to their academic growth and environment. Student engagement is also a cornerstone of the system and school especially in active learning methods, because, it is embedded not only throughout the learning process but also throughout every aspect of school planning and the development of school culture (Amanda et. al., 2006).

The importance of student engagement is not restricted at active learning level. It has contributions for the data use and data generating process, because: (1) gathering and analyzing data on the extent of student engagement is used as an influential tool for improving students' involvement in their own learning, and (2) sharing assessment data with students can enhance students' ownership of their goals and plans for improvement.

iii. For Data-Based Decision Making

Good achievement data is used to make good instructional decisions in education. How student achievement data are collected and implemented will determine how well that data support the instructional decision making by principals and teachers because as a guidelines: (1) achievement data must be made part of the ongoing cycle of instructional improvement; (2) students must be taught to examine their own data and set their own learning goals; (3) teachers must use achievement data to improve classroom instruction; (4) principals must establish clear vision for school-wide data use; (5) schools need to foster a data-driven culture; and (6) school districts must develop and maintain district-wide data systems.

It makes a sense that using information to help clarifying issues, identify alternative solutions to instructional problems, giving direction and target resources more effectively will lead to better understanding. Obtaining good data and using it effectively is actually a complex process but an important issue in education. Glaser and Silver (1994, p.26) suggested that specific type of data-based decision making which shows guarantee for helping schools dramatically increase student achievement is the use of assessment data to drive instructional improvement in the schools.

Therefore, effective educational leaders use achievement data extensively to guide them in decision making, setting and prioritizing goals, and monitoring progress. They use data to define needs, set goals, plan interventions, evaluate progress and provide

support. The continuing analysis of the gaps between goals for student learning and student performance defines the actions of effective schools. They also engage teachers in using data to analyze strengths, weaknesses, and opportunities for instructional improvement and finally, to meet the needs of all students and to reach accountability expectations (Nancy, 2001). In general, achievement data has a significant use in the context of school level and at the classroom level.

In general, according to Catherine et. al. (2005) the most common uses for achievement data in primary schools at school-level are to track pupil progress, to inform teaching and learning and planning, to identify underachieving pupils for further support, to set targets (goals) and to compare progress between groups/ subjects/ individuals/ schools. But at the classroom level, effective use of data enabled schools to highlight specific weaknesses for individual pupils, to identify weaknesses in topics for the class as a whole, to inform accurate curricular targets for individual pupils and provide evidence to support decisions as to where to focus teaching.

2.8 Factors Affecting Teachers' practices of Using Students' Achievement Data

Factors affecting teachers' practice of achievement data use may contain **s**ubstantive training refers to the teacher's experience with the content of the given course. This is a product of numerous factors, such as the educational background of the teacher (including educational level, major, and teaching certification), previous experience teaching courses in this subject area, and the teacher's ongoing professional development through work place.

2.8.1 Teacher-related factors

Teacher related factors such as teacher quality, educational background, teaching experiences, the ability of a school to attract teachers, and teacher incentives affect the student achievement and the use of data. But teacher quality is a vital factor to student achievement and use of achievement data in education. Some study literatures cited by Rockstroh et. al. (2013, pp. 6-8) verify these ideas.

i. Lack of Teacher quality

Teacher quality is more influential factor than other factors in the school (Linda, 1999). It is a key element of student academic success but lack of the quality of some teacher influences their achievement data use in classroom. Ruth (2003) suggested that the importance of highly qualified teachers in every classroom and to determine how best to prepare the qualified teachers. Quality teachers are often seen simply as good teachers and are considered to be those who exhibit desirable behavior and uphold the standards and norms of the profession. The quality teachers are also considered to be those who bring about better student learning. These teachers are professionally effective (Berliner, 2005). But lack of the teacher quality affects teachers' achievement data use in improving classroom instruction.

ii. Lack of Teachers' Preparation for Data Use

Lack of teachers' preparation for use of achievement data is also one of the factors that affect the quality of classroom teaching and learning. It contains shortage of teachers' ability to obtain student data from systems or to make sense of student data reports provided to them, lack of skills to identify students' strength and weakness based on the data interpretation, lack of confidence on their instruction, and low capacity to data-based decision making. With relating to their preparation, other key challenges to school data use are developing teachers' interest in student data and fostering their comfort in looking at data with staffs so that they can seek help from those staffs whose students are profiting most from instruction.

iii. Teaching experience

The effect of teacher experience has a positive relationship with teachers' effectiveness on using student learning result (Klitgaard & Hall, 1974). More senior teachers are more effective than the inexperienced teachers (Rivkin et. al., 2000). But the relationship between teacher experience and student achievement data use is difficult to interpret because this variable is highly affected by different factors (e.g. most of senior teachers are more likely to leave the profession due to different reasons) (Harris and Sass, 2007).

Therefore, teachers' use of student achievement data is affected by teaching experience of teacher.

iv. Teachers' educational background

Teacher qualifications that are considered to be related to student learning have become targets of education reform in many countries but the nature of this reform is under debate. Some perceive the main problem to be the low academic level of those who go into the teaching profession. Richard and Gema (2009) examined the linkages between the qualifications of primary school teachers and student achievement data use and suggested that teachers with low qualifications and weak academic credentials instruct primary students. These poorly prepared teachers have difficulties in the data-informed classroom teaching and utilization achievement data to improve classroom instruction.

2.8.2 Principal-Related factors

Principals affect student achievement data use mainly through schools, classrooms, and teachers. Leithwood et al. (2004) cited in New Leaders for New School, (2009) note that principals mainly affect school conditions through developing school-wide policies about retention, adherence to the curriculum, and working conditions for teachers. They may also separately affect classrooms within schools, by manipulating such efficient allocations of teachers to students, student ability grouping, and by monitoring the content and nature of instruction and student assessments.

The quality of school principal is one of the factors that affect teachers' achievement data use in the classroom, because the initiating efforts to promote data-informed decision making within schools have found that the active promotion of the effort on the part of the principal (Hamilton et. al. 2009). The most powerful school-level catalysts for teacher use of data are school leader promotion and the establishment of an organizational climate of trust and mutual respect. They play a major role in framing targets for educational improvement, setting educational goals, planning, setting expectations for staff participation in data use and making resources using student achievement data (Barbara et. al., 2009). But these all activities of school principals depends on the principals' quality or professional effectiveness, capacity and confidence to support data

users and commitment to data-based decision making. If principals are failed to do these activities, teachers' achievement data use become below the expectation, which affects the quality of teachers' classroom instruction.

2.8.3 School-Related-Factors

a. Lack of training of teachers and principals on achievement use

Training on the achievement data utilization is important to improve classroom teaching and learning as well as for good data-based educational decision making in their schools. But in many cases training has not been extended to all of the district's schools. Training on how to generate, to analyze and to use the achievement data to change their instructional style are required for all teachers. School principals or vice principals, teachers, and other data concerned school communities should have enough knowledge and skills to hold detailed information on the kinds of training provided on the use of data and data systems.

b. Lack of well organized achievement data document

The work of Tozer & Holmes (2005) cited in Christina (2008) stated that a characteristic of good achievement data document is its potential to help teachers make good decisions about students' learning. Student achievement data such as teacher observational notes of students' performance in class, results of assignment, homework and class work, student portfolios, results of formal and informal classroom assessment, report cards or large-scale assessment results found in the school. The well organization and accessibility of these assessment or achievement data fosters the quality of classroom instruction and educational decision. But, if these achievement data are not well organized in the school or on the hand of teachers, they affect the utilization of data to improve classroom teaching and learning processes.

c. Lack of school Supports to use data system

According to Barbara, et. al. (2010), improving the capacity of schools especially of teachers and principals to provide high-quality instruction based on data use and supporting their efforts to effectively use data (e.g., through leadership, professional development, and fostering supportive school cultures) are critical to success having the human capacity to make use of the data provided. To increase the use of data and data systems to the classroom level, schools must connect their data systems, professional development, and supports to instructional needs.

d. Lack of Educational Technology and Its Facility

Educational Technologies are considered as a crucial factor in improving the quality of educational instruction and enhancing the level of student learning performance (Bialo and Sivin-Kachla, 1995). Similarly, Sivin-Kachla (1998) found that students studying in a technology rich environment can achieve higher marks in all subject areas, gained a positive attitude towards learning; they are able to generate new ideas and built self-confidence than who do not have chance to use educational technology.

CHAPTER THREE

RESEARCH METHODS

This chapter deals with research design, the study setting, data sources, sample population and sample techniques, data collection instruments, procedure of data collection and method of data analysis.

3.1 Research Design

In this study, the mixed method research design was employed. The reason why the researcher used mixed method design was that it is characterized as research design that contains elements of both qualitative and quantitative approaches. The mixed methods design is also used as a procedure for collecting, analyzing, and mixing both quantitative and qualitative data in a single study to understand a research problem. So, it was used to get enough information from the participants on the issue under study.

3.2 The Study Setting

Kucha Woreda is one of the fifteen Woredas and two Sub cities of Gamo Gofa Zone in Southern Nations and Nationalities People Region (SNNPR) and located about 449 kms south of Addis Ababa, Ethiopia. Geographically, Kucha Woreda is mainly formed from four high lands, sixteen moderate and 13 low land kebeles in the total areas of 138,422 hectare. The Woreda met moderate climate condition because the majority of kebeles is woina dega (49.6%) and its temperature is also somehow medium (average temp. = 20.1-25^{0}c). The total population of Kucha Woreda is about 188,848 living in 33 administrative kebeles (Kucha Woreda Finance and Economy Development office, 2004E.C).

The economic activity of the people live in the Woreda is mainly based on the agriculture but of a few numbers of total populations live around the Woreda town (called Selamber) is based on government employment and trade. Additionally, the language policy of schools in the primary level of Kucha Woreda is as follow: Vernacular or mother tongue, “Gamoththo” is used as medium of instruction at first cycle primary school level (grade 1-4) but English is used as both the medium of

instruction and a subject of study for the second cycle primary school level (grade 5-8). The exception is for mother tongue "Gamoththo" and Amharic language which are given as a first and second language respectively.

Kucha Woreda contains a total of 58 public primary schools and no private school. From these primary schools, forty one are first cycle primary schools (1-4) and seventeen are second cycle primary schools (1-8). In addition, there are six secondary and one preparatory school in the Woreda. In these primary and secondary schools, a total number of students, teachers and principals is 40,726 (M=21,160 and F= 19,566), 727 (M=505 and F=222) and 67 (all are male) respectively. In the 58 primary schools, there are 36,631 students, 535 teachers and 58 principals (Source: Kucha Woreda Education office).

3.3 Data Sources

The data for this study was gathered from primary and secondary sources. Teachers, principals and department heads were included in the primary data sources. Official students' score documents in primary schools such as score sheets, mark lists, rosters, students' card reports and other achievement data related documents were also included as secondary data sources of the study. The researcher checked the content, clarity and organization of information in these documents. The data analysis mechanism and the provided feedback to teachers based on the analysis were observed and collected for qualitative information.

3.4 Sample Population and Sampling Techniques

The population for this study contained primary teachers, department heads and principals (N=306). Three sampling techniques were used from both probability and non-probability sampling techniques to draw the sample for the study; namely purposive sampling, available sampling and simple random sampling techniques. From the basis of larger number of primary schools in the Woreda than other Woredas in the Gamo Gofa Zone and based on the researcher's working experience for long time in Kucha Woreda to have detailed information, the Woreda was purposefully selected for this study. From a total of 58 primary schools, ten (10) primary schools were selected for the study as

sample schools by using simple random sampling (by using lottery techniques). From 246 teachers, 123 teachers were taken by using the same techniques. Because, it is easy to understand method of selecting a sample in which every element of the population has equal chance of being selected and every element in the sample is selected by chance. Since 10 principals were found in 10 primary schools, availability sampling technique was used to include all (ten) principals from those sample schools. The reason for using this technique is that available sampling method is extremely fast, easy, readily available, and cost effective to carry out the study relative to other techniques and the participants were available to find at the schools. Department heads and selected teachers were selected by using purposive sampling techniques. In case of selection of teacher respondents from the sample population, half of the total population (50% of teachers) were selected because "the larger the sample the better the study" (Cohen, 1994).

Table 1: Sample Population and Sample Sizes from selected schools in the Kucha Woreda

No	Name of Primary School	Total Population								
		For questionnaire		For Interview					Total	
		Teachers		Dep't heads		Principals		Teacher		
		Total Pop.	Sample	Total Pop.	Sample	Total pop.	Sample		Total Pop.	Sample
1	Selamber	74	37	5	2	1	1	2	80	42
2	Dinke	22	11	5	2	1	1	2	28	16
3	Morka	24	12	5	2	1	1	2	30	17
4	Dana	14	7	5	2	1	1	2	20	12
5	Shochora	20	10	5	2	1	1	2	26	15
6	Halango	20	10	5	2	1	1	2	26	15
7	Sikole	16	8	5	2	1	1	2	22	13
8	Z/Gamo	12	6	5	2	1	1	2	18	11
9	Bola	20	10	5	2	1	1	2	26	15
10	Mogola	24	12	5	2	1	1	2	30	17
	Total	246	123	50	20	10	10	20	306	173

(Source: Record offices of sample schools)

Table 1 shows that from total of 246 teachers, 123 (50%) were considered for the study as a sample because it was appropriate, manageable size and it helped the researcher to

maximize representation of the samples. Thus, 123 teachers, 10 principals, 20 department heads and 20 selected teachers were included in the sample as mentioned above.

3.5 Data Collection Instruments

Since the study was conducted through both quantitative and qualitative methods, the main data gathering instruments employed in the study were questionnaires, interviews and document analysis.

3.5.1 Questionnaire

Questionnaire was employed to gather data from teacher respondents. The questionnaires with open- and close-ended items were administered for teachers to collect data using statements of Likert type scales (each with five choices) so that teachers would give their responses by selecting either always (5), often (4), sometimes (3), rarely (2) and Not at all (1). But items related to factors at the last part of questionnaire were answered by using scales: not significant problem (1), neutral (2) and significant problem (3). The questionnaire consisted of three main parts in which teachers were asked to give answers with regarding to their own background, purpose of students' assessment, and scaling items. Scaling items also contained four sub-parts namely items related to achievement data generation, achievement data processing, achievement data utilization and factors affecting teachers' practices of using students' achievement data.

The first part of scaling items contained six items which reflected the achievement data generation, the second part included six items that described the teachers' practices of achievement data processing, and the third part consisted of six items related to teachers' practices of using achievement data for instructional improvement. The last part of scaling items described the teacher-, principal- and school-related factors (each contained 7 items).

3.5.2 Interview

Three sets of interview guides were prepared namely; interview guides for teachers, interview guides for department heads and interview guides for principals. Semi-structured interviews were used to secure first hand and additional information from participants. The interviews were conducted by face-to-face/one-to-one basis with the participants and their response was compiled by extensive note taking.

3.5.3 Document Analysis

The document sources were used for gathering information that fosters the elaboration of results from the study. The following documents were used: continuous assessment results; cumulative records; roster reports; student cards and other data-related documents. In primary schools, these achievement data documents are kept in the hands of teachers and principals and in record offices. These all documents provided the following information: registering/scoring techniques, organizing achievement data, feedback system, and assessment scores which reflected achievement data utilization.

3.6 Data Collection Procedures

The procedure of the study provided detailed information about the various instruments preparation, piloting, distribution and collection, and other proceedings. In this mixed method design for this study the following range of research instruments were employed: open- and close-ended questionnaire, semi-structured interview, and documentary analysis were being used where appropriate.

- **Piloting Instruments**

After designing, the first draft of the questionnaire was pre-tested. The researcher asked his friends to read the draft and provide constructive comments on the wording. Then, it was undertaken with one Psychologist and two curriculum and instruction students graduated from the College of Education and Behavioral Studies, Addis Ababa University. The comments and feedbacks on the wording, clarity, and ambiguity were collected from them. The comments from them were carefully considered and used to improve the questionnaire for further piloting. First, the instruments were prepared in English and had been translated into Amharic to make it valid and clear for the

respondents. Then it was given for two professionals in the fields to check the workability of instruments. Based on the collected comments and suggestions from them, some modifications were made.

Finally, the questionnaire was given to the research advisor to judge whether they can generate the expected information and also to check their internal consistency, content validity and appearance of the questionnaire. The final draft questionnaire with 39 items requiring answers on 5- point and 3-point scales for teachers; and interview guides for principals, department heads and selected teachers were developed.

- **Distribution and collection of questionnaires**

After making a face to face contact with principals of sample schools, the purpose of the study was verified to them and all school principals promised the researcher that every concern body to be informed to provide necessary required information. On scheduled time, the survey questionnaire was distributed to the teachers after clear verification its purpose. The distribution of questionnaire has taken at sample schools in the first and second week. The third and fourth weeks were taken to collect the distributed and completed questionnaire from teachers of each school. In spite of that heavy schedule, the researcher checked the questionnaires with teachers to ensure they were filled in completely. Finally, 123 (100%) distributed and completed questionnaire had been retrieved from teachers.

- **Interview procedure**

The interviews were conducted through disclosing the purpose of the study and it takes account the permission and willingness of respondents. The semi-structured interviews were employed with a total of 10 principals (one from each school), 20 department-heads (two from each school) and 20 selected teachers (two from each school). To be convenience of interviewees, all interviewees were scheduled appropriate time and place with researcher. To gather the data during interview, note taking was used.

The following basic issues were considered: background detail; views about achievement data generation, processing and utilization; and factors that affect teacher practices of utilization of students' achievement data. All the main issues were broken down into items and used as prompts to facilitate further exploration of responses. The

interviews were carried out on a one-to-one basis. Because the researcher assured all the pupils about confidentiality and explained to them that everything that was said at the interviews was to be used only for the study. They were also informed that their name would not be used when the data were being discussed at anytime and anywhere.

- **Document analysis Procedure**

During the fieldwork, the researcher realized how invaluable documents were available to teachers. The researcher also observed documents in the schools and hand of teachers to fill information in the document analysis check-list based on the format preparation, neatness, document organization and content clarity of the different classroom assessment results or achievement gains. It was used to examine and analyze the works of teachers on the basis of achievement data. Each document was accorded its own respect as seen in the way they were handled.

3.7 Methods of Data Analysis

The Data gathered through questionnaire, interviews and document analysis were analyzed using both quantitative and qualitative data analysis methods by the process of triangulation. Before analyzing the quantitative data, effective data entry tasks were done using Microsoft Excel application and then an intensive data cleaning, editing and checking and rechecking activities were performed. Following the data management processing, the data analysis tasks were continued by using the latest Version-20 software of Statistical Package for Social Science (SPSS). Data analysis and interpretation had been carried out by using frequency, percentage, mean and standard deviation. T-test and Analysis of Variance (ANOVA) were also employed to determine whether there are statistically significant differences in the practices of teachers with respect to their attribute variables. The test of significance was set out at alpha value of 0.05. In general, data gathered through questionnaires were analyzed quantitatively using descriptive statistics (frequency, percentage, mean and standard deviation) and inferential statistics (t-test and one way ANOVA) where as the data gathered through interviews and document analysis were analyzed qualitatively using descriptive statements and explanations. The qualitatively and quantitatively collected data were analyzed by the process of triangulation in mixed approach research design in the study.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter deals with presentation, analysis and interpretation of data collected from primary school teachers, principals and department heads. Data in this study are categorized hereunder into two parts. These are characteristics of respondents, and analysis and interpretation of the data obtained through different instruments (questionnaire, interview and document analysis). The main data was gathered from teachers through questionnaires and from principals, department heads and selected teachers using interviews. The collected data were analyzed and discussed to seek answers for basic research questions raised in the first chapter. Data from the participants were presented, followed by measure descriptions of results. The first presentation is based on the data presented for all teachers of the sampled schools followed by interviews of principals, department heads and selected teachers. The data analysis involved in both quantitative and qualitative techniques; and the relevant results set up from quantitative and qualitative data supplement each other for the purpose of triangulation.

4.1 The Characteristics of the Respondents

In this section, background characteristics of all study groups were discussed. The respondents of the study involved 143 primary school teachers, 20 department heads and 10 principals which made a total of 173 participants.

4.1.1 Background Characteristics of the Teacher Respondents

In the following table, the background of teachers who participated in the questionnaire was treated. In the questionnaire, teachers were requested to provide information on their personal profiles (sex, age, qualification and work experience). Details of this analysis are given in the Table 2 below.

Table 2: Frequency distribution of respondents' characteristics

No	Items		Respondents					
			Teacher		Department Head		Principal	
			N	%	N	%	N	%
1	Sex	M	78	63.4	15	75	10	100
		F	45	36.6	5	25	0	0
		Total	123	100	20	100	10	100
2	Age	Below 20	2	1.6	-	-	-	-
		20-24	21	17.1	1	5	-	-
		25-29	50	40.7	10	50	5	50
		30-34	30	24.4	6	30	2	20
		35-39	11	8.9	1	5	1	10
		≥40	9	7.3	2	10	2	20
		Total	123	100	20	100	10	100
3	Qualification	TTI	26	21.1	4	20	2	20
		Diploma	73	59.4	11	55	6	60
		Degree	23	18.7	5	25	2	20
		Below TTI	1	0.8	-	-	-	-
		Total	123	100	20	100	10	100
4	Work Experience	1-5	29	23.6	5	25	7	70
		6-10	49	39.8	11	55	1	10
		11-15	26	21.1	3	15	1	10
		16-20	7	5.7	-	-	1	10
		21-25	7	5.7	-	-	-	-
		Above 25	5	4.1	1	5	-	-
		Total	123	100	20	100	10	100

As shown in Table 2, the participants of this study were 123 primary school teachers who filled the questionnaires. The respondents consisted of 78 (63.45%) male and 45 (36.6%) female teachers. This shows that the majority of the respondents were male teachers. Regarding principals and department heads, all (100%) of principals were males while 15 (75%) and 5 (25%) of department heads were males and females respectively. Form this; one can conclude that there is small proportion of female teachers in the primary schools.

With respect to academic qualification, about 26 (21.1%) of the teachers, 2 (20%) of principals and 4 (20%) of department heads were TTI, 73 (59.4%), 6(60%) of principals and 11 (55%) of department heads diploma holders and 23 (18.7%) of the teachers, 2 (20%) of principals and 5 (25%) of department heads had degree and the remaining 1

(0.8%) teacher was 12th grade. The data in the Table 2 above revealed that a majority i.e. 59.4% of teachers, 60% of principals and 55% of department heads in the sampled primary schools were diploma holders. Although the majority of them were diploma holders currently, they have been attending their first degree at different government universities in the summer programs as the researcher was informed from school principals and on some respondents' remark notes. Similarly, the certificate respondents were also summer diploma program students at different colleges.

Regarding age, 2 (1. 6%) of teachers were less than 20 years old. 21 (17.1) of teachers and 1 (5%) of department heads were in the range of 20-24 years. On other hands, 50 (40.7%) of teachers, 5 (50%) of principals and 10 (50%) of department heads were found in the age category of 25-29 years, while 30 (24.4%) of teachers, 2 (20%) of principals and 6 (30%) of department heads were in the age range of 30-34 years. Further, 11 (8.9%) teacher respondents, 1 (10%) of principals and 1 (5%) of department heads were under the range of 35-39 years old and the rest 9 (7.3%) teachers, 2 (20%) of principals and 2 (10%) of department heads were 40 and above years old. Thus, the largest proportion of the respondents who were participated in the study was found in the age category of 25-29 years.

With regard to work experience in Table 2, 29 (23.6%) of the teachers, 7 (70%) of principals and 5 (25%) of department heads have 5 and below years of work experience. Besides, 49 (39.8%) of the teachers, 1 (10%) and 11 (55%) have 6 up to 10 years of teaching experience, while 26 (21.1) of teachers, 10% of principals and 3 (15%) of department heads were in the range of 11-15 years work experience; about 7 (5.7%) of teachers and 1 (10%) of principals worked for 16-20 years of working experience. About 5 (4.1%) of teachers and 1 (10%) of principals have a work experience above 25 years in primary schools. This revealed that the majority of teachers in sampled schools were in the range of work experience 6-10 years.

4.2 Students' Achievement Data Generation

This part has the purpose of exploring teachers' practices in students' achievement data generation (research question 1). Generating achievement data is a process of gathering data

on the teaching and learning in the classroom that will help teachers to assess both students' learning and their own teaching (Angelo, Thomas and Patricia, 1993). These data can be generated through different assessment tools which are the potential sources for achievement data. These are teacher-made tests, teachers' observations, class works, home works, quizzes, assignments and student works (project works, group works, field works and presentation) and performance and standard-based assessment. In addition, achievement data generation is taken as a base for its further analysis and utilization to improve classroom instruction in the schools. The report of teachers' responses to the items in the questionnaire regarding achievement data generation provided information on their practices using frequency, percentage, mean and standard deviation as in Table 3 below.

Table 3: Teachers' responses towards generation of student achievement data

Items for achievement data generation		**Not used at all**	**Used rarely**	**Used some-times**	**Used often**	**Used always**	**Total**	**Mean**	**Std. Dev.**
I assess students after teaching each topic or sub-topic to generate students' achievement data	N	0	16	32	55	20	123	3.64	.91
	%	0	13	26	44.7	16.3	100		
I do have an experience of generating students' achievement data by using pencil and paper testing	N	5	38	30	37	13	123	3.19	.11
	%	4.1	30.9	24.4	30	10.6	100		
I use of diverse techniques (class work activities, home work, test, etc) to generate achievement data	N	0	3	12	29	79	123	4.50	.77
	%	0	2.4	9.8	23.6	64.2	100		
Students' achievement data that are generated/prepared are properly stored in students' data document	N	0	1	29	45	48	123	4.14	.80
	%	0	0.8	23.6	36.6	39	100		
The generated achievement data has been taken as the base for improving classroom instruction	N	1	8	49	41	24	123	3.64	.90
	%	0.8	6.5	39.9	33.3	19.5	100		
Adequate generation of achievement data has supported data processing and utilization	N	0	9	46	41	27	123	3.70	.90
	%	0	7.3	37.4	33.3	22	100		
							Grand mean	**3.80 (76%)**	.73

Rating Scale: Not used at all=1, Used rarely=2, Used sometimes=3, Used often=4 and Used always=5.

Table 3 indicated the extent of teachers' practices of generating achievement data. Teachers were asked to show their options or views of student achievement data generation along the six items. The results of frequency, percentage and mean score of all items in the table show teachers' positive responses towards the items which were stated to determine the extent of teachers' practices in student achievement data generation in primary schools. However, teachers have lower performance in using paper and pencil tests (written tests) to produce student achievement data. The study revealed that the higher proportion (i.e.30%) reported that they do have experience of using paper and pencil tests. Besides, 10.6% of them indicated that they practice 'often' and 'always' respectively, and 24.4% the same 'sometimes.' From this result, it is very difficult to conclude that the teachers had good experience of generating achievement data using paper and pencil test. The computed mean score, i.e. 3.19 which is very close to the average mean (3.00) also supports this conclusion.

In general, the study revealed that the extent of teachers' practices towards student achievement data generation is about 76%, which shows that teachers have better practices towards the issue in primary schools. This means they considered achievement data generation as it helps them to improve the process of classroom teaching and learning. Furthermore, the grand mean value (i.e. 3.80) which is above the average mean (i.e. 3.00) also indicates teachers' good practices towards the achievement data generation in primary schools.

During interview, the teachers, department heads and school principals selected from the ten sample schools participated and have given their suggestions and views regarding the achievement data generation. The first question addressed to the interviewees was "What are the assessment tools that are used by teachers to generate achievement data in your schools?" Their responses were more or less the same. Almost all of them reported that "formative assessment techniques are the dominant" in their respective schools. They were also asked to explain "Why they use formative assessment techniques" and here is a response from one of the school principals:

> *Teachers in our schools have good practices in using different formative or continuous assessment techniques such as classroom observation, home and class work, tests, quizzes, etc. to generate students' achievement data in the classroom. They are doing this activity daily and weekly because the current education policy encourages continuous assessment strategy.*

As noted above, almost all the interviewees shared similar opinion. The other question raised to the interviewee teachers was also "Do you think all teachers have the same capacity to generate achievement data in your school?" Here is a respondent of one teacher who reflected his opinion as follow:

> *All teachers cannot be at the same line or level in a single activity. They may be differing in their nature, length of training, interest, experience and skills. Teachers in our schools cannot be out of this reality. Even though there is a difference between teachers, they perform better practices of students' achievement data.*

Although, the above teacher widely verified his views towards teachers' capacity; the other respondents also said "the difference comes due their difference in skills and length of training." In addition, the interviewees were asked to respond on the best assessment techniques to generate students' achievement data (Interview Q1). To this question, the consistent responses were obtained. Opinion of one respondent, which others have said in different way, is presented here:

> *Generating students' achievement data through formative or continuous assessment process is better than that of summative assessment because it is daily activity and the progress of students can be easily determined by observing their test scores and especial support can be designed in short period of time.*

The above participants' responses (to interview Q1) supports the result observed from Table 3, a majority or about 108 (87.8%) of teachers often or always made use of diverse continuous assessment techniques to generate students' achievement data.

Therefore, students' achievement data is mainly generated through formative assessment at all primary schools.

The documents of generated and stored achievement data in primary schools show some information such as widely using of classroom observation, assignment, class work and homework to generate achievement data. On other side, there is lack of organized information in some of documents. In general, the information gathered from the document analysis provide more specific advice to teachers, for example,

> *At the classroom level, the purpose of gathering assessment information is to provide the most appropriate learning opportunities for students; provide feedback to students and identify their next learning steps; develop partnerships with stakeholders; modify teaching program and practices; ensure continuity of education for individual students.*

A key statement underlying this concept is that assessment should provide teachers with information about how to generate achievement data, how to improve the quality of learning to achieve better outcomes for students (Black & Wiliam, 1998).

4.3 Teachers' Characteristics and Achievement Data Generation

The report of teachers' responses to the items in the questionnaires regarding achievement data generation provided information on their practices. The information collected on achievement data generation of the study area were further analyzed to determine whether there was a significant relationship between teachers' background characteristics (sex, age, qualification and teaching experience) using independent sample t-test and one way ANOVA as a measure of significance difference. Accordingly, there are differences among the means of sex, age, educational background and teaching experience). However, the observed differences between all groups of variables were not statistically significant at 0.05 significance level (See Appendix J)

4.4 Student Achievement Data Processing

Processing achievement data is the bridge between achievement data generation and utilization. Processing in this study is represented by analysis of student achievement data. Processing or analyzing achievement data allows all teachers to identify the strengths and weaknesses of a whole class as well as individual students (Gail and Michael, 2011). This analysis is the responsibility of teachers to learn whether the criteria on the student learning outcomes and teaching practices were met. In addition, teachers analyze the achievement data they have collected and prepared from different assessment sources to adjust their instructional methods and assessment tools, and to provide feedbacks in ways that address those students' needs (Lachat & Smith, 2005). As teachers analyze the data, they can develop solutions about factors that affect students' learning and ways to improve instruction to help all students achieve (Gail and Michael, 2011). It also makes the information meaningful, and initiates teachers to effectively communicate and further to utilize these data. The results in this study is in agreement with the suggestions of different researchers stated their ideas above. The findings of the study towards teachers' achievement data processing activity were discussed in Table 4 below using frequency, percentage and mean values to determine the extent of teachers' practices on the issue.

Table 4: Teachers' responses towards students' achievement data processing

Items for achievement data processing		Not used at all	Used rarely	Used sometimes	Used often	Used always	Total	Mean	Std. Dev.
I analyze students' achievement data to see average performance of the classroom	N	1	8	16	29	69	123	4.28	.98
	%	0.8	6.5	13	23.6	56.1	100		
I analyze students' achievement data to see the relative performance of each student	N	1	7	22	44	49	123	4.08	.94
	%	0.8	5.7	17.9	35.8	39.8	100		
I analyze students' achievement data by disaggregating by sex/gender	N	9	24	38	35	17	123	3.22	1.14
	%	7.3	19.5	30.9	28.5	13.8	100		
I analyze students' achievement data by disaggregating by place of residence (urban and rural)	N	55	40	14	8	6	123	**1.94**	1.13
	%	44.7	32.5	11.4	6.5	4.9	100		
I analyze the range as well as dispersion from mean performance	N	3	1	17	45	57	123	4.24	.90
	%	2.4	0.8	13.8	36.6	46.4	100		
I prepare graphs showing students' performance on my course	N	21	45	41	9	7	123	**2.48**	1.04
	%	17.1	36.6	33.3	7.3	5.7	100		
						Grand mean		**3.37 (67.4%)**	1.02

Rating Scale: Not used at all=1, Used rarely=2, Used sometimes=3, Used often=4 and Used always=5.

The data in Table 4 presented about the extent of the teachers' practices on student achievement data processing. Teachers were asked to show their opinion towards student achievement data processing along the six items. Regarding items 1, 2, 3 and 5 in table 4, the highest proportion of teachers reported that they process/analyze student achievement data adequately. Their computed mean scores (i.e. 4.28, 4.08, 3.22 and 4.24 respectively) are above the average mean (3.00), which also explain the teachers' superior practices in analyzing student achievement data. These findings are similar

with that of Lachat & Smith (2005). They had drawn their study findings and put it as "the analysis of generated achievement data was used to identify individual as well as classroom students' performance, their strengths and weaknesses and to adjust classroom instruction."

On other side, teachers negatively responded towards two items (item 4 and 6) of achievement data processing which shows their poor practices regarding the items. Accordingly, for the fourth item in Table 4, the least proportion i.e. 6.5% and 4.9% of respondents reported that they make analysis of students' achievement data by disaggregating by place of residence (Urban or Rural) 'often' and only 'always' in that order. About 11.4% of teachers practiced the same 'sometimes.' From this result, it can be concluded that teachers in primary schools do not analyze achievement data to check the performance of rural and urban students by disaggregating their results by the place of residence. When we compare this result with an obtained mean (1.94) which is very below the average mean score (3.00), it assures the above conclusion. Thus, analysis of achievement data to determine the difference in performance between students in terms of their place of residence is not adequately done.

Regarding the 6th item in Table 4, the least percent, i.e. 7.3% and about 5.7% of respondents reported that they have used graphs to show the students' performance on their own course 'often' and 'always' respectively. In addition, about 33.3% of them have used the graph sometimes. The data revealed that more than half of the respondents did not prepare or use graphs to show the performance of students on their course. The mean value (i.e. 2.48) which is below the average mean (3.00) also indicates the same thing. The document analysis supported this result in which about nine schools out of ten sample primary schools have used only tables to show students' results of all subjects rather than preparing graphs. Thus, it can be concluded that the teachers' performance in using graphs to show the performance of students on their respective course is not satisfactory.

In general, the extent of teachers' practices towards student achievement data processing resulted from the above table is 67.4%. This shows teachers in primary schools are moderately analyzing student achievement data. Furthermore, the computed

grand mean (3.37) which is above the average mean score (3.00) supports this conclusion.

The responses of respondents were also confirmed during the interview. In relation to the achievement data processing, the principals and department heads responded to the question designed as "How do teachers analyze achievement data in your school, interview Q_3?" and consistent responses were obtained. Here is the opinion of one department head:

> *The analysis of students' achievement data takes place after data generation and storage in its formats. The analyzed result is used to rank students in the class, to determine the performance of each student, to check whether or not the goal set is achieved, to identify the weakness and strength of students, to provide feedback and support the low achievable students.*

This opinion is shared by almost all the interview respondents. From the idea of the respondents, it could be possible to say that achievement data processing is useful to teachers however the practices require adequate conditions and strong commitment.

During document evaluation, there were a number of incomplete documents and pieces of ideas were observed regarding the achievement data processing. For example, some tables were incomplete and had no full information but reported to the concerned body. As to the researcher, since teachers have more or less better practices in processing achievement data as shown above, a large number of written documents were expected to be conducted with the issues related to the achievement data analysis.

4.5 Teachers' Characteristics and Achievement Data Processing

The purpose of this section is to assess the significant relation between the teachers' background characteristics towards teachers' practices of achievement data processing in primary schools (research question 4). The data collected from the second sub-section of the questionnaire were further analyzed to determine whether there were significant relations between achievement data processing and background characteristics (sex, age, qualification and teaching experience) using independent t-test and one-way

ANOVA as measures of significance at alpha value 0.05. Accordingly, there are differences among means of sex, age, qualification and teaching experience. Except for the qualification of respondents, the observed mean differences of all the other variables were not statistically significant at 0.05 alpha values. As the result of the study revealed that there was statistically significant difference between different groups of qualification at 0.05 alpha level ($F_{(3, 119)} = 4.63$, $p= 0.004$). The higher the qualification the better the practices is expected but here certificate teachers showed better performance in achievement data processing than diploma and degree teachers (See Appendix-K).

4.6 Students' Achievement Data Utilization

The use of achievement data to inform instruction, to identify students' needs and to assess the whole class as well as individual progresses is an essential in the schools to improve teachers' teaching, students' learning and their achievement (Janet et. al., 2008). The individual teacher and the schools take the students who come to them and seek to improve their learning through good data-informed instructional approach. This data-informed instruction needs students' data in the schools. Schools are saturated with these achievement data and using these data needs to be located in the classroom, to support such evidence-based instruction and students' learning (Hattie, 2005). Besides, teachers use achievement data to pace their instruction, to align their lessons to standards, to identify lessons for re-teaching, to guide their students, and target students for involvement (Datnow et. al., 2007). Data help them to set and refine concrete goals (Supovitz & Klein, 2003). All achievement data in schools and classrooms can be used together to create rich analyses of students' learning and progress. Furthermore, teachers may use this data in the classroom to make formative changes in instruction, to provide feedbacks to their students or to measure their progress (Black & William, 2009). Therefore, the primary school teachers in the study area are requested to respond towards their practices of utilization of achievement data. The frequency and percentage was performed to examine their extent of data use and the results are presented in Table 5 below.

Table 5: Teachers' responses towards the student achievement data utilization

No	Items of achievement data utilization		Not used at all	Used rarely	Used sometimes	Used often	Used always	Total	Mean	Std. Dev.
1	I use student achievement data as evidence to identify weaknesses and strengths of student performance	N	1	12	40	48	22	123	3.63	.92
		%	0.8	9.8	32.5	39	17.9	100		
2	I use students' achievement data as a source to improve or change my classroom instruction style	N	2	13	47	42	19	123	3.51	.90
		%	1.6	10.7	38.2	34.1	15.4	100		
3	I do have a culture to forward the weakness and strengths of student to themselves after processing their test scores	N	3	22	18	25	55	123	3.72	.87
		%	2.4	17.9	14.6	20.4	44.7	100		
4	I adequately participate in meeting of department/school discussing about practice of students' achievement data utilization.	N	2	10	62	34	15	123	3.41	.86
		%	1.6	8.1	50.4	27.6	12.3	100		
5	I compare learners' performances on assessment conducted at different times to see if there is any improvement	N	1	11	17	46	48	123	3.84	.87
		%	0.8	9	13.8	37.4	39	100		
6	When I serve as homeroom teacher, I usually call parents to discuss on the performance of their children so that they support at home	N	5	12	51	45	10	123	3.35	.91
		%	4	9.8	41.5	36.6	8.1	100		
								Grand mean	**3.45 (69%)**	.89

Rating Scale: Not used at all=1, Used rarely=2, Used sometimes=3, Used often=4 and Used always=5.

Table 5 shows the extent of teachers' utilization of student achievement data. They were asked to reflect their feeling towards utilization of student achievement data to improve the classroom instruction along the six items. The result of frequency, percentage and mean scores in the table show teachers' positive responses to all items which were

stated to determine their extent of data use. As the data indicated, the extent of teachers' utilization of student achievement data (research question 3) is 69%. This result revealed that teachers have positive responses towards achievement data utilization in primary schools. Looking these positive responses, it can be possible to say teachers adequately utilize student achievement data in improving their classroom instruction. Similarly, the grand mean value of achievement data utilization (i.e. 3.45) which is above the average mean (3.00) indicates teachers have better position on utilization of achievement data in primary schools.

To strengthen the above survey result, interviews were employed. Participants (teachers, principals and department heads) were asked to explain their views about teachers' utilization of achievement data to improve classroom instruction. To the question "How do you think about the use of achievement data in your school in general?" Almost all interview participants explained their opinion in a similar way. Their common understanding about teachers' use of achievement data is put as follow:

> *Most of teachers in our school use the analyzed achievement data to rank students in the class, to identify the strengths and weaknesses of students, to set instructional goals, to determine the needs of students, to check whether or not the instruction is effective and also to report the progress of students as well as the school at all.*

Principals and department heads were also asked another question as "Do you think about the use of students' achievement data as an evidence for instructional improvement in your school?" One experienced principal explained the importance of teachers' achievement data use as follow:

> *"Teachers use achievement data for their further instruction improvement or change, but the degree of their data use in our school is not the same and also did not reach the expectation. Even though this is true, they have good achievement in data use."*

As noted above, other interviewees share similar opinion of the above principal. For instance, another principal reflected his opinion as follow: "Using achievement data

plays a great role in the school as well as in the classroom to link students learning and instruction. So, teachers responsibly use achievement data for their instructional change in our school. Analysis after generation the data take place first. Then teachers were referring it to identify the strength and weakness of their instruction, to propose the solution for problems that contribute to the weakness or to give special support to lower achieved students."

Finally, they were asked to respond the question "What are the strengths and limitations of achievement data utilization in their primary schools?" and they listed strengths and limitations. Accordingly, their views towards the issue are around the same areas and summarized as follow:

> *The strengths of the teachers in achievement data use are providing frequent support for students who scored low result, ranking students based on their achievement data, taking data as evidence for further teaching and learning process, using data for instructional decision whereas some limitations are taking data use as administrative force and having moderately adequate data use.*

Documents were analyzed to get relevant information about data use during the field work. Data obtained with the help of the other instruments was cross-checked by observing documents. The researcher specifically observed student achievement data related documents (e.g. Rosters, student cards, score sheets, meeting documents, etc.). Accordingly, some of documents were hopeful in the eyes of the researcher and some documents were not. The well organized documents that were observed in some schools are for instance:

- *"Yearly documented students' rosters of different classes at Selamber and Dinke primary schools,*
- *The continuous assessment results currently presented on the hand of teachers at Selamber, Dinke, Bola, Morka and Dana primary schools,*
- *The analyzed students' results at Selamber primary school by using Table*
- *Different formats of continuous assessment data in some schools*
- *Meeting documents of schools/department in almost all schools"*

Regarding the information that was obtained from document analysis in the schools, some of achievement data documents have been well organized and contained relevant information, and the others were poorly handled. The decision to say well or poor is based on their relevance of information to use, the standard of contents the document contained, how well the data analyzed and other information that are found in the documents.

4.7 Teachers' Background Characteristics and Achievement Data Utilization

This section was devoted to investigate whether or not teachers' utilization of student achievement data had related with their background characteristics such as sex, age, qualification and teaching experience of respondents. The collected data were analyzed to determine their significant relation between the background characteristics and achievement data utilization using the t-test and one way ANOVA at 0.05 alpha values. As a result, there were no statistically significant differences between different groups of sex, age, qualification and teaching experience towards student achievement data utilization (See Appendix L).

4.8 Factors Affecting the Teachers Utilization of Students Achievement Data

In identifying the factors affecting data use, different researchers have given different categories. In this study, several constraints were found and categorized under three main branches. Assuming that the problems could come either from inside or outside the schools, but the researcher focused on inside the schools and categorized as teacher-related factors, principal-related factors and school-related factors depending on the level and type of problems.

1. Teacher-Related Factors

Teacher quality is the most important in-school factor relating to student achievement gains (New Leaders for New School, 2009), lack of knowledge and skills to use data, lack of preparation during classroom instruction, low educational background,

incentive-related issues, commitment and others are teacher-related factors. As reviewed in literature, Linda (1999) found the relationship between teacher quality and its influence to their practices and students' achievement, and concluded that teacher quality is more important than other factors such as class size and overall school spending. Similarly, Rockstroh et. a. (2013) suggested that teacher quality is a vital factor to student achievement and use of achievement data in education. In addition, if teachers have no preparation during instruction, they miss confidence, interest, and classroom management. Regarding their teaching experience and educational background, the two are also the most important factors that affect teachers' practices of achievement data use. To determine the degree of their seriousness, frequency and percentage were employed.

Table 6: Teachers' responses to the teacher-related factors that affect their data utilization

No	Items of teacher-related factors		Not Significant Problem	Neutral	Significant Problem	Total	Mean	Std. Dev.
1	Lack of quality of teachers (lack of professional effectiveness)	N	28	4	91	123	2.51	.84
		%	22.8	3.2	74	100		
2	Lack of knowledge and skills to use achievement data (generating, processing and using)	N	16	4	103	123	2.72	.72
		%	13	3.2	83.8	100		
3	Shortage of experience in use of achievement data	N	30	7	86	123	2.40	.97
		%	24.4	5.7	69.9	100		
4	Low educational background of teachers	N	21	8	94	123	2.41	.98
		%	17.1	6.5	76.4	100		
5	Less preparation during classroom instruction and assessment	N	18	5	100	123	2.71	.77
		%	14.6	4.1	81.3	100		
6	Being incentive orientedness	N	31	16	76	123	2.06	.97
		%	25.2	13	61.8	100		
7	Lack of commitment to practice in students' achievement data during utilization	N	26	6	91	123	2.53	.82
		%	21.1	4.9	74	100		
					Grant Mean		**2.48 (82.67%**	.87

Rating Scale: Not Significant =1, Neutral=2, Significant Problem=3

Teachers were asked to rate about seven items in the Table 6 to determine whether or not the teacher-related factors affect their achievement data utilization. Regarding the first item here, about 74% of respondents rated lack of quality of teachers as a significant problem. This shows that the majority of teachers' utilization of achievement data is seriously affected by lack of quality of teachers in primary schools. The obtained

mean value i.e. 2.51 indicates the same thing since it is above the average mean (2.00). Therefore, lack of teacher quality is a significant problem to teachers' achievement data use in improving classroom instruction. The finding of study by Rockoff (2004) supported this result that teacher quality is a major teacher-related factors linked to students' achievement data use. Similarly, Darling-Hammond (1999) suggested that teacher quality is more important factor than all other teacher-related factors in the schools.

Lack of knowledge and skills to use student achievement data is another teacher-related significant problem for teachers in primary schools. As indicated in Table 6, the highest proportion, i.e. 83.8% of teachers rated as the significant problem. Besides this, the mean value i.e. 2.72 which is above the average mean (2.00) indicates the seriousness of the problem. Thus, it was found as very significant problem for teachers' utilization of achievement data in primary schools.

Regarding the third problem in Table 6, a higher proportion about 69.9% of teachers responded that a shortage of teachers' experience on achievement data use is a significant problem. The obtained mean score (i.e. 2.40) which is above the average mean (2.00) supports the conclusion on the seriousness of the problem.

Educational background of teachers pays a remarkable role in using students' achievement data to improve the classroom instruction. Regarding the degree of its consequence, about 76.4% of teacher respondents rated it as the significant problem of data use. It is strengthened by the resulted mean value i.e. 2.41, which indicates that it is very significant problem of teachers' utilization of student achievement data in primary schools.

The other chronic problem for the quality classroom instruction is less preparation of teachers during classroom instruction and assessment. When teachers have lack of preparation, they lose confidence of their subject matter, lack ability to obtain students' data from data system, lack skills to identify students' and lack interests to teach, etc. The result in Table 6 is consistent with this idea. About 81.3% of the respondents reported it as a significant problem. Furthermore, the obtained mean value (2.71) shows

the same thing. Therefore, one can take this problem as a major problem that affects teachers' achievement data use.

Being incentive oriented is another factor which is widely affecting teachers' use of achievement data in primary schools. Accordingly, higher proportion i.e. about 61.8% teachers rated it as a significant problem which shows that it's less effect on their data use. Furthermore, the smallest mean value 2.06 which is much closer to the mean value (2.00) indicates its little influence on teachers' achievement data use.

Regarding the last item, 74% of respondents reported lack of commitment as a significant problem. This higher proportion of teachers' responses revealed that lack of commitment to use data is a serious problem of them. Its mean value (2.51) also supports the data obtained from frequency and percentage.

Generally, the data from Table 6 clearly illustrated the major teacher-related factors that affect teachers' utilization of student achievement data in primary school. According to the majority, i.e. 82.67% of respondents rated that all problems stated under teacher-related factors are significant problems however they vary in degree of influence. When we look at their mean values carefully, lack of knowledge and skills is the most significant problem with highest mean value (2.72) and being incentive-oriented is the least significant problem with the mean value (2.06). In addition, the grand mean of the teacher-related factor is 2.48 which imply that it is as a major.

The interviews results from teachers, principals and department heads support the above findings. During the interviews, all participants were asked to reflect their views about teacher-related factors to the question "What are the teacher-related factors that affect the classroom instruction in your school?, Interviews Q 7.1 and Q6" One of the teachers said:

> *Teaching profession by itself is a full of challenges. But we teachers are achieving the goals by challenging the challenges. In my opinion, the teacher-related factors such as lack of teachers' commitment, less preparation and lack of skills to play with achievement data take higher*

position followed by other factors for example less experience and less qualification.

Most of respondents repeatedly reported in similar way with that of the above teacher such as teachers' less preparation, less commitment, low educational background and lack of skills and knowledge as major teacher-related factors. Further, in view of that some group of participants explained teacher-related factors as follow:

> *Although better teachers' practices of using achievement data is much more expected, more teachers may be under different challenges and remained below expectation. Especially data analysis requires experience, skills and knowledge but some teachers do it for sake of not to be responsible. It is difficult to talk about their quality of teachers also.*

Therefore, anyone can conclude that these teacher-related factors have a great contribution for teachers' unsatisfactory data use.

2. Principal-Related Factors

Some principal-related factor such as lack of professional effectiveness (lack of quality), low educational background, low experience, lack of capacity and confidence for data-based decision, lack of ability to support teachers, not being role model in achievement data practice, lack of initiation in its practice, etc. these are expected to be obstacles to teachers' practices of achievement data use in primary schools. To show the degree of their seriousness, frequency, percentage and mean analysis were employed in the following table below.

Table 7: Teachers' responses to the principal-related factors

No	Items of principal-related factors		Not significant Problem	Neutral	Significant Problem	Total	Mean	Std. Dev.
1	Lack of quality of principal (Lack of professional effectiveness)	N	28	3	92	123	2.40	.972
		%	22.8	2.4	74.8	100		
2	Shortage of experience and competency in practice achievement data	N	29	12	82	123	2.10	.948
		%	23.6	9.7	66.7	100		
3	Low educational background	N	39	17	67	123	1.87	.926
		%	31.7	13.8	54.5	100		
4	Lack of capacity and confidence in developing data-based instructional decision	N	36	6	81	123	2.37	.908
		%	29.3	4.9	65.8	100		
5	Lack of ability/capacity to support teachers on use of achievement data for classroom instructional improvement	N	32	8	83	123	2.41	.877
		%	26.0	6.5	67.5	100		
6	Not being role model for teachers in achievement data practice	N	37	17	69	123	2.10	.927
		%	30.1	13.8	56.1	100		
7	Lack of commencement or initiation in practice of achievement data	N	36	4	83	123	2.38	.910
		%	29.3	3.2	67.5	100		
						Grand mean	**2.20 (73.3%)**	**.929**

Rating Scale: Not Significant =1, Neutral=2, Significant Problem=3

As anyone can see from Table 7, a majority i.e. 74.8% of respondents rated lack of quality of principal as a significant problem. This shows that teacher' practices of achievement data is mainly affected by the quality of principals in primary schools.

Further, the obtained mean value (2.40) which is above the mean value (2.00) supports the above conclusion.

Shortage of experience and competency is another principal-related factor that may affect teachers' data use activity. As presented in Table 7, about 66.7% of teachers rated this factor as a significant problem. This shows its influence on the higher proportion of teachers towards achievement data use in primary schools. However, the mean value (i.e. 2.10) which is very close to the average mean (i.e. 2.00) which shows less influence when comparing to the others however the problem is rated as a significant problem.

Regarding the third factor in Table 7, around 54.5% of the respondents reported low educational background of principal affects teachers' achievement data use. From this, it is difficult to conclude that principals' low educational background is a significant problem of teachers' data use practices. The smallest mean score (1.87) which is below the average mean (2.00) also supports this conclusion.

Having capacity and confidence to develop data based-instructional decision is an important issue. But most of primary principals may lack it and frustrate to support teacher on their practices during achievement data use. Accordingly, about 65.8% of respondents rated it as a significant problem. This indicates the higher influence on teachers' achievement data use. In similar way, the obtained mean score (2.37) which is above the average mean also supports the conclusion of its high influence on teachers' practices of data use. As a result, lack of capacity and confidence among principals was a significant problem according to a majority of respondents.

Concerning to the fifth item, lack of ability or capacity to support teachers during data use is another influential principal-related problem as a majority i.e. about 67.5% of respondents' report has shown. The acquired mean value (2.41) also assures the data found by frequency and percentage. This clearly confirms that it is a major principal-related problem which affects teachers' practices of data use.

Regarding the sixth item in Table 7, a higher proportion, about 56.1% of teacher respondents rated the principal's not being role model for teachers in data use as a significant problem. However, a majority of respondents rated as a significant problem,

it is difficult to conclude it as a serious problem. The obtained mean value (2.10) which very closes to the average mean (2.00) shows the same thing just as presented in percentage.

Since principals are the leaders of teachers, they are expected to initiate teachers when they perform achievement data use better, but they in primary schools have done below this expectation according to the result revealed. As the data presented in Table 7, the higher proportion i.e. 67.5% of teacher respondents responded this factor as a significant problem. This depicts its great influence on the teachers' practices of achievement data use. The result of mean value (2.38) explains the same thing just as presented in frequency and percentage.

Generally, Table 7 clearly presented major principal-related factors affect teachers' practices of achievement data use in primary schools. The grand mean (2.20) of the problems clearly indicates that although the degree was varied almost all problems were there in ten primary schools of the study area. For example, lack of capacity to support teachers seemed the most likely significant principal-related problem. It could be seen in two ways. On one hand, principals themselves seemed ignorant to support teachers otherwise they did not expect themselves as the responsible body to practice achievement data utilization. In addition, low educational background with the smallest mean value (1.87) has the least influence on teachers' practices of achievement data use. According to the researcher's understanding, factors which affect one school may differently affect the other school because it depends up on the nature of principals' administration system and it has lower influence when comparing with the teacher-related and school-related factors.

The findings from interview support the above results that are presented in Table 7. The participants of interview were asked to show their opinion to the question stated as "What are the major principal-related factors in your school?" and "What is your suggestion on these problems?" To these two questions a consistent respondents were obtained. One of the principals expressed his views as follow:

In nature, principal-related factors may affect every activity in the schools. Teachers' data use is one of major tasks of teachers which might be affected by factors concerned the principals. I see these factors in the context of my personal information for example, educational background, experience and others. To talk frankly, I was a TTI teacher but probably, I had been a principal within short period of time (within 3 years teaching experience). Look! Low qualification with less experience; not only teachers' activities but also it limits my activity in the school in different direction.

A department head from one school said "It is true that shortage of experience influences the use of achievement data in the school. I do have less experience which affects not only teachers' data use but also how I analyze student achievement data to determine the progress and needs of students and the school as well as to test out the progress of classroom instruction. I assume that other less experienced department head may face in the way." This opinion is similar with that of the result obtained by survey questionnaire just a majority i.e. 69.9% of teacher respondents rated it as the significant problem.

Other groups of participants agreed on the ideas of the above participants and have given additional common suggestions on the above two questions together. They mentioned some principal-related factors such as "lack of instructional evaluation, lack of providing feedback and giving supports, lack of motivation and low capacity to support teachers also hold back the teachers' practices of students' achievement data utilization. Therefore, anyone can conclude that most principal-related factors affect the data use practices in the schools.

3. School-Related Factors

School-related factors such as lack of training, lack of students' data team, lack of educational technology and its facilities, weak trends to initiate model teachers, inadequate resource allocation, lack of school supports and weak documentation of achievement data were designed as items to define the school-related factors in primary schools. As the results of the study suggested that the majority of teachers rated the

factors as serious problems which are assumed to be the major obstacles for achievement data use. The following table presented the responses of teachers towards school-related factors by employing frequency, percentage and mean.

Table 8: Teachers' responses for school-related factors

No	Items of school-related factors		Not Significant Problem	Neutral	Significant Problem	Total	Mean	Std. Dev.
1	Lack of training to develop skills of teachers and principal	N	6	3	114	123	2.88	.454
		%	4.9	2.4	92.7	100		
2	Lack of students' data team (initiatives)	N	28	22	72	123	1.99	.880
		%	23.6	17.9	58.5	100		
3	Lack of educational technology and its facilities	N	23	6	94	123	2.58	.789
		%	18.7	4.9	76.4	100		
4	Weak trends to initiate model teachers who have good practice in achievement data utilization	N	41	17	65	123	2.02	.911
		%	33.3	13.8	52.8	100		
5	Inadequate resources allocation for achievement data activities (for formats different and stationeries)	N	13	4	106	123	2.76	.632
		%	10.6	3.2	86.2	100		
6	Weak hard copy achievement data documentation system (Roster, mark list, card report & other data-related portfolios)	N	15	1	107	123	2.76	.669
		%	12.2	0.8	87	100		
7	Lack of school support providing data-based instructional decision making	N	19	14	90	123	2.47	.922
		%	15.4	11.4	73.2	100		
	Grand mean						**2.50 (83.3%)**	.751

Rating Scale: Not Significant =1, Neutral=2, Significant Problem=3

The items in table 8, deal with the influence of school-related factors in the practices of teachers' achievement data utilization. The primary need to undertake good

achievement data utilization practice is above all, related to training to develop skills of teachers and principals towards data generation, processing and utilization. For the problem hence, the highest proportion i.e. 92.7% of respondents rated lack of training as a significant problem which shows the seriousness of the problem on the primary school teachers' data use practices. In addition, its mean score (i.e. 2.88) which is the highest mean of all other factors also gives the same tone for this problem.

The presence of students' data team (initiatives) in any school enhances the quality of data use in the school. Because they are responsible for data-related activities such as data storage, data analysis, etc. Lack of this body in the school affects teachers' practices also. Accordingly, about 58.5% of respondents rated this factor a significant problem. However, the higher proportion, (i.e. 58.5%) of respondents reported it significant problem, it is difficult to conclude that lack of student data team is a major school-related factor that affect teachers' practices of data use. Further, the compared mean score (1.99) which is below the average mean (2.00) supports the above conclusion.

Educational technology can solve any problems including data-related issues in the school compound. But schools (especially rural primary schools) are mostly exposed to lack of this technology. As illustrated in Table 8, about 76.4% of teachers responded to the item as a significant problem. This shows that lack of educational technology is a major problem for primary schools teacher towards achievement data use to improve classroom instruction. It is also supported by the result of mean value (2.58) in similar manner. Findings from previous studies coincide with this data; for instance, Bialo and Sivin-Kachla (1995) suggested that educational Technologies are considered as a crucial factor in improving the quality of educational instruction and enhancing the level of student learning performance.

Weak trend to initiate good performed model teachers in data use is another school-related factor for primary school teachers towards data use. The data in Table 8 illustrated that about above half (52.8%) of respondents rated the factor as a significant problem. From this result, we can conclude that it has the least influence on teachers'

practices of utilization of achievement data. The computed mean score (2.02) which is almost equal to the average mean (2.00) supports the above given conclusion.

Adequate resource allocation is mandatory for schools to succeed good achievement data practices. But lack of these material resources such as different test score formats; follow up check-lists, student cards, rosters formats, and graph and chart papers influence teachers' practices of data-related activities. As shown in Table 8, around 86.2% teachers reported lack of adequate resource allocation as a significant problem. Moreover, the higher mean score (i.e. 2.76) which is above the average mean (i.e. 2.00) also supports the result obtained from the percentage and frequency. Thus, one can easily say that lack of adequate resource allocation is a major school-related problem that hinders the practices of teachers' achievement data use in primary schools.

According to Christina (2008), characteristics of good achievement data document is its potential to help teachers make good instructional decisions about students' learning. But lack of this well organized achievement data document in the primary schools obviously hinders the teachers' achievement data use. Regarding the sixth item in table 12, a majority, i.e. 87% of teacher respondents rated this problem as a significant problem. This shows the seriousness of the problem in the primary schools. As the mean value (2.76) indicated, it has a similar tone with that the result obtained from frequency and percentage.

The last school-related factor in Table 12 is lack of school support from different administrative bodies including principals. Accordingly, the higher proportion (73.2%) of teacher respondents reported this problem as a significant problem. From this, one can conclude that lack of school support influences teachers when they use data to improve classroom instruction. The computed mean score (2.47) which is above the mean value (2.00) has the same conclusion.

In general, one can observe that a majority of the respondents have rated as a significant problem towards the items related to training, educational technology and its facilities, resource allocation, hard copy data documenting system and school support. Problems like lack of student data team and lack of teachers' motivation have somewhat less

influence on teachers' achievement data utilization. Therefore, the school-related factors seemed they have different degrees of influences on practices of teachers' achievement data use. For instance, lack of training has the highest degree of influence according to its obtained mean value (2.88) which is below the mean average (2.00) whereas lack of student data team has the least mean value (1.99) and its influence on teachers' practices of achievement data use is relatively low. Generally, the grand mean of the school-related factor is 2.50, which shows also this factor has great influence on teachers' practices of achievement data use than teacher-related and principal-related factors in the primary schools.

Additional information was acquired by interviewing principals, department heads and teachers. They were asked to explain their opinion for the question "What are the major school-related factors in your school? Interview Q8.3" and one teacher personally discussed his option as follow:

> *We, teacher make data use in our school up to we can but we haven't got up-dated training adequately. Imagine! How many of teachers have taken good training to develop their knowledge and skills on the practices of achievement data to improve classroom instruction? How can we achieve better practices without good skills and knowledge? So, it is not surprising to say teachers' practices of achievement data use is not as the school planned and expected.*

All other participants shared his opinion because almost all of them mentioned lack of training as the most serious school-related problem that affect teachers' practices of data use in the schools.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDETION

This Chapter deals with the summary, conclusions and recommendations which were drawn from this study in this order.

5.1 Summary

The purpose of this study was to assess teachers' practices of utilization of students' achievement data to improve classroom instruction in ten randomly selected primary schools of Kucha Woreda. In order to achieve this purpose, the following basic research questions were made:

1. To what extent do teachers generate student achievement data in primary schools of Kucha Woreda?
2. To what extent do teachers process student achievement data in primary schools of Kucha Woreda?
3. To what extent do the teachers use student achievement data to improve classroom instruction?
4. Is there any statistically significant difference among the teachers in terms of utilization of students' achievement data as a result of their sex, level of education, and years of teaching experience?
5. What factors influence the utilization of student achievement data as an evidence for instructional improvement in primary schools?

To answer these basic research questions, a descriptive survey with qualitative and quantitative approach was adopted. In addition, the study has gone through identifying the primary and secondary sources of data, selection of appropriate tools for collecting data and administering of the data gathering instruments such as questionnaire, interviews and document analysis in order to gather the necessary information. One

hundred twenty three questionnaires were distributed to primary school teachers to be filled and all the distributed copies (100%) were returned to analyze them. Information from interviews (face-to- face) and document analysis were also analyzed and interpreted qualitatively to fill the gap with the quantitative data. Accordingly, 123 teachers, 10 principals, 20 department heads and 20 selected teachers were taken from ten sample primary schools using simple random sampling, availability sampling and purposive sampling techniques to participate in the study. Piloting was carried out well to take correction and to confirm the validity and reliability of the study. In analyzing the data collected percentage, frequency, mean score; standard deviation, t-test and One-way ANOVA were employed.

Based on the analysis made, the following major findings were identified in relation to the five basic research questions. These findings are:

a. Students' Achievement Data Generation

- The finding of the study revealed that teachers in primary schools of Kucha Woreda poorly apply paper and pencil test (written test) for student achievement data generation. As the respondents reported, only 10.6% and 30% of teachers used paper and pencil test technique 'always' or 'often' respectively. Besides 24.4% of teachers applied it sometimes. Hence, teachers' practice towards using paper and pencil test to generate achievement data is unsatisfactory.

- The findings of this study indicated that the extent of teachers' achievement data generation in primary schools is about 76%. Its grand mean score is also 3.80 which is above the average mean (3.00). Therefore, teachers in primary schools have good practices in achievement data generation.

- The finding from the interview indicated that teachers do not have the same capacity or ability to generation data due to their difference in their skills and knowledge, length of training, educational background and experience. This difference may decrease teachers' performance in achievement data generation.

b. Students' Achievement Data Processing (Analysis)

- The findings of this study revealed that teachers in primary schools of the study area have moderate practices in achievement data processing. The result showed that the extent of teachers' achievement data analysis is about 67.4%. And the grand mean score of the achievement data analysis is 3.37 which above the average mean, i.e. 3.00. This shows that the moderate performance of teachers in primary schools to analyze student achievement data.

- Furthermore, the findings of this study also indicated the small proportion i.e. only 22.8% of teachers analyze students' achievement data by disaggregating by place of residence (Urban and Rural). Therefore, teachers' practices of data analysis by disaggregating by students' place of residence is also unsatisfactory.

- The data obtained from the respondents also depicted that teachers in the primary schools have lower practices in preparing or using graphs to show students' performance on their own course. As the data revealed that only 13% of teachers use graphs to show students performance on their own course. Besides, 33.3% of them used it sometimes. The interview responses and document analysis have shown the same result i.e. teachers use table rather than graph to show students' result analysis in almost all primary schools. Therefore, teachers have unsuccessfully used graphs to show students' performance on their own course.

c. Students' Achievement Data Utilization

- The practices of teachers towards students' achievement data utilization were assessed and the subsequent results were obtained. A majority of the teachers positively responded towards the use of achievement data as evidence to identify weaknesses and strengths of students, as a source to improve or change classroom instructional style and as a way to forward students' performance level to themselves. In addition, their responses also show positive result towards comparing students' performance on assessment to see change or improvement. In general, the finding of the study revealed that the extent of teachers' utilization of student

achievement data in primary schools is 69% and its grand mean score is 3.45 which is above the average mean (3.00). Therefore, teachers in primary schools of Kucha Woreda have better practice towards student achievement data utilization in improving classroom instruction

d. Differences among the Teachers along Attribute Variables

- The independent t-test and one way ANOVA results revealed that there were no statistically significant differences towards student achievement data generation among teachers regarding their sex, age, qualification and teaching experience in primary schools.

- Looking the overall practices of teachers regarding their background variables towards achievement data processing, the result of t-test and one way ANOVA analysis shows there were no statistically significant differences between sex, age and teaching experience at the 0.05 alpha level.

- Further, the findings of the study indicated that there was statistically significant difference between different qualification groups towards achievement data processing at 0.05 alpha level. The study surprisingly revealed that certificate teachers perform superior than diploma and degree holders in the primary schools. Diploma or degree teachers have low practices in achievement data analysis.

- The findings of the present study disclosed that there were no statistically significant differences between different attribute variables (i.e. sex, age, qualification and teaching experience) groups towards teachers' achievement data utilization in improving classroom instruction.

e. Identifying factors that affect Achievement Data Utilization

The main challenges to the effective use of students' achievement data for primary school teachers, according to the responses of the questionnaire and interview guides were categorized under teacher-related factors, principal related factors and school-related factors which were found to be the major factors that influence teachers' utilization of student achievement data. The findings of the study indicated these three

factors greatly influenced the teachers' use of student achievement data in classroom instruction improvement.

- **Teacher-Related Factors**

- As far as teacher-related factors hindering teachers' utilization of achievement data were concerned, most of teachers faced difficulties in skills and knowledge of generating, processing and using achievement data since there were no opportunities to gain good training. The study identified lack of quality, low educational background, shortage of experience and less preparation during classroom instruction and teachers' incentive orientedness were found to be the major teacher-related problems for primary school teachers to use achievement data. The interview responses were mainly focused on less preparation and lack of commitment of teachers.

- **Principal-Related Factors**

- The findings of this study illustrated that principal-related factors have influenced achievement data practices in primary schools. As the findings showed that lack of professional effectiveness, shortage of experience, lack of capacity, confidence and ability to support teachers and lack of initiation are the more serious problems and low educational background and not being role model are the least significant problem i.e. 54.5% and 56.1% of teachers rated them as a significant problem respectively.

- **School-Related Factors**

- The findings from the study revealed that lack of training, lack of educational technology and its facilities, weak trends to initiate model teachers who have good performance in data use, inadequate resources allocation, weak trend in copy hard achievement data documentation, lack of school support were also responded by majority of teachers as a significant school-related factors in the primary schools. But lack of initiation of model teachers is less in influence of teachers' achievement data use. According to the study finding, about 52.8% of teachers rated lack of initiation as significant problem which shows its less influence.

5.2 Conclusion

From the discussion of major findings of the study the following conclusions were made.

Most teachers clearly understand the importance of achievement data generation and its contribution to further data processing and utilization to improve classroom instruction. Having this understanding, teachers achieve better practices in achievement data generation. Although, they have better practices in all other data generation issues, they do use paper-pencil tests (written tests) assessment technique is inadequate. They use other diverse assessment techniques adequately but unsuccessfully practice this activity. Regarding teachers' practices in achievement data processing, they show moderate practices. On other side, they poorly analyze students' results to assess their performance based on their place of residence. Teachers also use graphs to show students' performance on their own course inadequately. As the interview report indicated that they use table rather than graph to show students' performance on their own courses. In addition teachers' utilization of students' achievement data in primary schools is positively responded. Teachers perform better when they use achievement data to identify weakness and strength of students' performance, to improve or change instruction style and to compare learners' performance after assessment if there is improvement or not. As the findings of the study also revealed that there were no statistically significant differences at 0.05 alpha levels in between different groups of attribute variables (sex, age and teaching experience) towards teachers' practices of achievement data generation, processing and utilization. In case of qualification, there was no statistically significant between certificate, diploma and degree teachers towards achievement data generation and utilization but there was statistically significant difference between groups of qualification towards achievement data processing which shows that teachers having different educational backgrounds vary in their data processing practices in the primary schools.

However, teachers have good performance in utilization of students' achievement data; challenges from different corners tied them from being properly practiced. Among these, the study found out major teacher-related, principal-related and school-related

factors that hindered the teachers' achievement data use. As the study revealed, lack of teachers' professional effectiveness, lack of knowledge and skills, shortage of experience, low educational background, less preparation of teachers during classroom instruction and assessment, incentive orientedness and lack of commitment were identified as teacher-related factors. The major principal-related factors were also lack of their professional effectiveness, less experience, lack of capacity and confidence to make decision and support teachers, lack of motivation, low educational background and lack of being role model. The degree of influences of low educational background and not being role model is lower. The study also indicated lack of training, lack of students' data team, lack of educational technology and its facilities, Weak trends to initiate model teachers; inadequate resources allocation, weak hard copy data documentation system and lack of school support were reported as major school-related factors. From the findings of this study therefore, it is possible to conclude that teacher-related, principal-related and school related factors are the major problems for teachers to practice achievement data use properly.

5.3 Recommendations

On the basis of above major findings and conclusions drawn, the researcher has suggested the following recommendations.

- Even though teachers use diverse assessment techniques (e.g. classroom test, student group works and presentations, class work and home works, assignments etc) to generate students' achievement data, their practices in using paper and pencil testing were found to be unsatisfactory. Therefore, primary schools are recommended to provide teachers to have good achievement data generation skills.
- As the nature and aim of instruction in the quality education changes with local and global situations, the skills and knowledge of teachers should be updated by the help of different means such as training based on data use and educational technology systems. All primary schools should plan and conduct relevant training and workshops to acquaint teachers with important knowledge and skills of achievement data use.
- Teachers' practices in analysis of achievement data to show students' performance using graphical representation is insufficient. The primary schools need to create awareness

regarding reflection of students' result analysis to stakeholders by showing through graphs, charts, tables, etc. to make students' performance clearly observable.

- Teachers have very low practices in analyzing students' achievement data to identify the difference between the urban and rural students based on their achievement data. Hence, Woreda education office and primary schools should take responsibility to provide teachers to be good data analyzers to know the difference between rural and urban students on their performance.
- The research findings revealed that there was statistically significant difference between the qualification groups of teachers towards data processing in primary schools. Besides, certificate teachers show better practices whereas diploma and degree teachers show lower practices of achievement data processing (i.e. the expectation was reversed). Therefore, Kucha Woreda education office and primary schools should plan and conduct workshops and trainings for diploma and degree teachers to develop their awareness on data processing. In addition, Zone Education Department and Woreda Education Office should open the opportunities for TTI teachers to take in-serve training and have to promote their good practices in achievement data processing.
- Classroom instruction is improved if and only if teachers properly use achievement data as evidence to determine students' progress and their teaching effectiveness. Thus, teachers have to be the direct responsible for classroom instruction improvement through data-based decision and school leaders should be potential enough to facilitate and support the teachers to use achievement data effectively.
- Even though the extent of teachers' practices in utilization of students' achievement data to improve classroom instruction has positively responded, there are many major teacher-related, principal-related and school-related factors identified. Therefore, the quality, qualification, knowledge and skills, capacity and ability of teachers and principals should be maintained by well designed training based on the achievement data practices. Zone education department, Woreda education office and schools themselves should take the responsibility to provide this training. In addition, primary schools have to allocate adequate resources, provide supports,

motivate model teachers, make available and well organized achievement data documents to reduce teacher-, principal- and school-related factors.

- Finally, since the issue of achievement data utilization to improve classroom instruction in the primary schools has not been frequently researched, further deep and continuous investigation of the issue with the larger sample is recommended to concern body.

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Appendix-A

Addis Ababa University

College of Education and Behavioral Studies

Department of Curriculum and Teacher Professional Development Studies

I. Questionnaire to be filled by Primary School Teachers

The main objective of this questionnaire is to collect necessary information for the study of "Teachers' Practices of Utilization of Learners' Achievement Data to Improve Classroom Instruction in selected primary schools of Kucha Woreda". The result is hopped to help identify factors that affect the teachers' practice of generating, processing and using learners' achievement data in the selected schools and to propose possible solutions that need to be considered for better classroom teaching and learning.

You are therefore, kindly requested to fill in the questionnaire. The success of this study entirely depends upon your genuine and timely responses to all the question items.

The information to be obtained will surely be used for only academic purpose; hence, your response will be kept confidential.

General direction

1. No need of writing your name or any other identification
2. For question items with alternative answers, please put "X" mark on the box given.
3. Please write your answer briefly for items with provided blank spaces.
4. Please respond to all the questions

Thank You in advance for your cooperation!

Part I: - General Information

1.1 Name of the School ----------

1.2 Sex:- A. Male ☐ B. Female ☐

1.3 Age (in Years)

A. Less than 20 ☐ B. from 20-24 ☐ C. From 25-29 ☐

D. From 30- 34 ☐ E. From 35-39 ☐ F. 40 and above ☐

1.4 Academic Qualification:-

A. TTI ☐ B. Diploma ☐ C. BA/BSC ☐ D. Others ☐

1.5 Field of Qualification: - A. Major ---------- B. Minor ----------

1.6 Subject you teach ----------

1.7 Your Experience as a teacher (in Years)

A. From 1-5 ☐ B. From 6-10 ☐ C. From 11-15 ☐

D. From 16-20 ☐ E. From 21-25 ☐ F. Above 25 ☐

Part II: Purpose of Assessment

2.1 Please list down the most important reason for you assessing your students' learning ----------

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2.2 Please, briefly describe what you do when you assess your students' learning.

2.3 What will you do with the mark after the assessment?

Part III: Rating Items

Direction: - Here are statements/items related to the teachers' practices of generating, processing and utilization of students' achievement data, and identifying factors that influence teachers' practices of utilization of learners' achievement data. Please show the extent of your feeling about each item putting "X" mark in the appropriate column against each question item.

3.1 Items related to generating students' achievement data.

S.No	Items	5	4	3	2	1
1	I assess students after teaching each sub-topics/topic to generate students' achievement data.					
2	I do have an experience of producing/generating students' achievement data by using pencil and paper tests.					
3	I make use of diverse techniques (e.g. classroom activity, homework, tests, group work) to generate students' achievement data.					
4	Students' achievement data generated or prepared in the classroom are properly stored in student data system/document.					
5	Generating students' achievement data has been taken as the base for improving classroom instruction.					
6	Adequate generation of achievement data has supported data processing and data utilization.					

3.2 Items related to teachers' practices of learners' achievement data processing (Analysis of Students' Achievement Data)

No	Items	5	4	3	2	1
1	I analyze student achievement data to see average performance of the class.					
2	I analyze student achievement data to see the relative performance of each student.					
3	I analyze the student achievement data by disaggregating by sex/gender.					
4	I analyze the student achievement data by disaggregating by place of residence (rural and urban).					
5	I analyze the range as well as dispersion from mean performance.					
6	I prepare graphs showing students' performance on my course.					

3.3 Items related to using/utilization of/ students' achievement data.

No	Items	5	4	3	2	1
1	I have used students' achievement data as an evidence to identify weaknesses and strengths of students' performance.					
2	I have used students' achievement data as a source to improve or change my classroom instruction style.					
3	I do have a culture to forward the weaknesses and strengths of students to themselves after processing their test scores.					
4	I adequately participate in meeting of department/school discussing about practice of students' data utilization.					
5	I compare learner performances on assessments conducted at different times to see if there is any improvement.					
6	When I serve as homeroom teacher, I usually call parents to discuss on the performances of their children so that they support at home.					

3.4 In responding to the items related to factors that affect teachers' practices of learners' achievement data in the table below.

Please note that: 3=Significant problem, 2= Neutral and 1= Not a significant problem. (Use "X" mark to show the extent of your feeling against each question item)

3.4.1 Teacher Related factors

No	Items	3	2	1
1	Lack of quality of teachers (Lack of professional effectiveness)			
2	Lack of knowledge and skills to practice (generating, processing and using) students' achievement data.			
3	Shortage experience in practice of achievement data.			
4	Low educational background of teachers			
5	Less preparation during classroom instruction and assessment			
6	Being incentive-oriented			
7	Lack of teachers' commitment to practice in students' achievement data using.			

3.4.2 Principal-Related factors

No	Items	3	2	1
1	Lack of quality of principal (Lack of professional effectiveness)			
2	Shortage of experience and competency in practice of achievement data.			
3	Low educational background of principal			
4	Lack of capacity and confidence in designing data-based instructional decision making.			
5	Lack of ability or capacity to support teachers on use of achievement data for classroom instructional improvement.			
6	Not being role model for teachers in achievement data practices.			
7	Lack of commencement or initiation in practice of achievement data.			

3.4.3 School-Related factors

No	Items	3	2	1
1	Lack of training to develop skills of teachers and principals			
2	Lack of student data team (initiatives)			
3	Lack of educational Technology (student data system) and its facilities.			
4	Weak trends to initiate model teachers who have good performance in practice of achievement data utilization.			
5	Inadequate resources allocation for teachers' practices of achievement data activities (for different formats and stationeries).			
6	Weak hard copy achievement data documentation system (roster, mark list, card, other data-related students' portfolios).			
7	Lack of school support proving data-based instructional decision making.			

Appendix-B

Addis Ababa University

College of Education and Behavioral Studies

Department of Curriculum and Teacher Professional Development Studies

Interview Guide for Principals

The main objective of this interview guide is to collect necessary information for the study of "Teachers' Practices of Utilization of Learners' Achievement Data to Improve Classroom Instruction in Selected Primary Schools of Kucha Woreda". The result is hopped to help identify factors that affect the teachers' practice of generating, processing and using learners' achievement data in the selected schools and to propose possible solutions that need to be considered for better classroom teaching and learning.

You are therefore, kindly requested to fill in the questionnaire. The success of this study entirely depends upon your genuine and timely responses to all the question items.

The information to be obtained will surely be used for only academic purpose; hence, your response will be kept confidential.

General direction

1. No need of writing your name or any other identification
2. For question items with alternative answers, please put "X" mark on the box given.
3. Please write your answer briefly for items with provided blank spaces.
4. Please respond to all the questions

Thank You in advance for your cooperation!

Part I: - General Information

1.1 Name of the School ----------

1.2 Sex:- A. Male ☐ B. Female ☐

1.3 Age (in Years)

A. Less than 20 ☐ B. from 20-24 ☐ C. From 25-29 ☐

E. From 30- 34 ☐ E. From 35-39 ☐ F. 40 and above ☐

1.4 Academic Qualification:-

A. TTI ☐ B. Diploma ☐ C. BA/BSC ☐ D. Others ☐

1.5 Field of Qualification: - A. Major ---------- B. Minor ----------

1.6 Your Experience (in Years)

A. From 1-5 ☐ B. From 6-10 ☐ C. From 11-15 ☐

D. From 16-20 ☐ E. From 21-25 ☐ F. Above 25 ☐

Part II: Interview Guide

1. What are the assessment tools that are used by teachers to generate/collect learners' achievement data in your school? A. Summative B. Formative
2. If your answer for Q-1 is "formative", why?
3. How do teachers interpret or analyze students' achievement data in you school?
4. How would you think about student achievement data utilization in your school?
5. Dou you think about the use students' achievement data as an evidence for instructional improvement in your school?
6. How do you treat or support teachers when they are using achievement data?
7. Write what you think are:
   7.1 The strengths in using student achievement data for instructional improvement?
   7.2 Limitations or weaknesses of teachers' practices of learners' achievement data utilizations?
8. In your opinion, what are the major factors or challenges in the practices of using students' achievement data? (Teacher-related factors, Leadership-related factors and School- related factors
   8.1 You can add if there are other factors in your school
9. What solutions or measures do you recommend to reduce challenges or problems you have mentioned above for future improvement of classroom teaching and learning?

Appendix-C

Addis Ababa University

College of Education and Behavioral Studies

Department of Curriculum and Teacher Professional Development Studies

Interview Guide for department Heads

1. What are the assessment tools that are used by teachers to generate/collect learners' achievement data in your school/department?
   A. Summative B. Formative
2. If your answer for Q-1 is "formative", why?
3. How do teachers interpret or analyze students' achievement data in you school/dep't?
4. How would you think about student achievement data utilization in your school/department?
5. Do you think about the use of students' achievement data as an evidence for instructional improvement in your school?
6. Write what you think are:
   6.1 The strengths of teachers practices of utilization of student achievement data for classroom instructional improvement in your school?
   6.2 Limitations or weaknesses of teachers practices of learners' achievement data utilizations?
7. What are the major factors or challenges in the practices of using students' achievement data to improve classroom teaching and learning process?
   7.1 Teacher-related factors
   7.2 Leadership-related factors
   7.3 School- related factors
   7.4 You can add if there are other factors in your school

8. What solutions or measures do you recommend to reduce challenges or problems you have mentioned above for future classroom instructional improvement?

Appendix-D

Addis Ababa University

College of Education and Behavioral Studies

Department of Curriculum and Teacher Professional Development Studies

Interview Guide for selected teachers

1. How do you reflect the utilization of students' achievement data in your school?
2. What is your role in the utilization of students' achievement data to improve classroom instruction?
3. How do you notice the analysis of students' achievement data in your school?
4. Do you think all teachers have equal ability or capacity to generate, analyze and use students' achievement data for instructional improvement?
   A. Yes B. No
5. If your answer for Q-3 is "No", what do think about the main reason for such difference to happen?
6. How do suggest about teacher-related, principal-relate and school-related factors?
7. What Solution should be taken to solve the problem?

Appendix-E

Addis Ababa University

College of Education and Behavioral Studies

Department of Curriculum and Teacher Professional Development Studies

Document Analysis Checklist

P=Poor,

G= Good and

VG= Very Good

Items	VG	G	P
Continuous assessment result formats for each classroom(Mark list/score sheet format)			
Card, Roster format with clear information			
Recorded/collected assessment results by each subject teachers.			
Annual and semester rosters of each classroom			
Annual Card reports			
The analyzed students' achievement data shown by table or graph			
Meeting documents of department and school			
.Other portfolios such as students' daily activities records, classroom observation check list, feedback format, etc.			

Appendix-F

አድስ አበባ ዩኒቨርስቲ

የሥነ-ትምህርትና የባህሪይ ጥናት ኮሌጅ

የሥርዓተ-ትምህርትና መምህራን ልማት ትምህርት ክፍል

በ1ኛ ደረጃ መምህራን የሚሞላ መጠይቅ

ዉድ የዚህ መጠይቅ ተሳታፊዎች፡

የዚህ መጠይቅ ዋና ዓላማ በደ/ብ/ብ/ሕ/ክ/መ በቁጫ ወረዳ የ1ኛ ደረጃ ት/ቤቶች መ/ራን የተማሪዎችን የፈተና/ምዘና ውጤት መረጃ ስለክፍል ውስጥ መማር ማስተማር መሻሻል ምን ያህል እንደሚጠቀሙ እና ያጋጠሙ ችግሮችን መለየት በተመለከተ ለሚደረገው ጥናታዊ ጽሑፍ መረጃ መሰብሰብ ነው፡፡ ይህ ጥናት በአዲስ አበባ ዩኒቨርስቲ የሥርዓተ-ትምህርትና መምህራን ልማት ጥናት ትምህርት ክፍል የካሪኩለምና እንስትራክሽን የትምህርት መስክ ለሁለተኛ ድግሪ ማሟያ የሚሠራ ሲሆን ፋይዳው ትምህርታዊ ዓላማ ብቻ ያለው ነው፡፡ ስለሆነም በማጠቃለያ ሪፖርትም ሆነ በአጠቃላይ የጥናቱ ሂደት የእርስዎ ስምና አድራሻ የማይገለጽና በምስጥር እንደሚያዝ እያረጋገጥኩ የእርስዎ ትክክለኛ ምላሽ ለዚህ ጥናት ስኬት ጉልህ ድርሻ ያለው ስለሆነ ልባዊና ትክክለኛ ምላሽ እንድሰጡኝ በአክብሮት እጠይቃለሁ፡፡ ይህ በመሆኑ ለዚህ መጠይቅ ምላሽ መስጠት በምንም መልኩ አይገዳዎትም፡፡

አጠቃላይ መመሪያ

1. **ስም መጻፍ አያስፈልግዎትም፡፡**
2. **ለመልስ ክፍት በተተወው ቦታዎች የ "X" ምልክት ያድርጉት**
3. **በጽሁፍ መልስ መስጠት ስያስፈልግዎት በተሰጡት ክፍት ቦታዎች አጭርና ግልፅ መልስ ይፃፉ፡፡**
4. **ለሁሉም ጥያቄዎች ምላሽ በመስጠት ይተባበሩኝ፡፡**

ለሚሰጡኝ ትክክለኛ መረጃ በቅድሚያ አመሰግናለሁ!!

ንዑስ ክፍል አንድ፡ የግል መረጃ

1. **የት/ቤቱ ስም** ----------
2. **ፃታ:- ሀ. ወንድ** ☐ **ለ. ሴት** ☐
3. **ዕድሜ (በዓመት)**

ሀ. ከ 20 **በታች** ☐ **ለ. ከ** 21-24 ☐ **ሐ. ከ** 25-29 ☐

መ. ከ30-34 ☐ ሠ. ከ 35-39 ☐ ረ. 40 እና በላይ ☐

4. የትምህርት ደረጃ:-

ሀ. ቲቲአይ ☐ ለ. ዲፕሎማ ☐ ሐ. ዲግሪ ☐ መ. ሌላ ☐

5. የተመረቁበት ትምህርት መስክ: ----------

6. የሚያስተምሩት ትምህርት ዓይነት ----------

7. አገልግሎት (በዓመት)፡-

ሀ. ከ 1-5 ☐ ለ. ከ 6-10 ☐ ሐ. ከ 11-15 ☐

መ. ከ 16-20 ☐ ሠ. ከ 21-25 ☐ ረ. ከ 25 በላይ ☐

ክፍል ሁለት: የምዘና ዓላማ

2.1 የተማሪዎችን የመማር ሂደትን ለምን እንደሚመዘኑ ዋና ዋና ምክንያቶችን ይዘርዝሩ፡

2.2 የተማሪዎችን የመማር ሂደት ሲመዘኑ ምን ምን እንደሚያደርጉ በአጭሩ ይግለፁ፡፡

2.3 ከምዘና በኋላ ማርክ ወይም ውጤት ሲሰጡ ምን ምን እንደሚያደርጉ በአጭሩ ይግለፁ፡፡

ክፍል ሦስት፡ ስኬልንግ ጥያቄዎች

መመሪያ፡- ከዚህ በታች በአራት ክፍሎች የተዘረዘሩ መመዘኛ ጥያቄዎች የተማሪዎችን የሚዜና ውጤት ከማመንጨት፣ ከመተንተንና ከመጠቀም ጋር ተያያዥነት ያላቸው እንድሁም መምህራን በትክክል እንዳደተገብሩ ተጽዕኖ የሚፈጥሩ ነገሮችን (ተግዳሮቶች) ከመለየት ጋር ተያያዥነት ያላቸው ናቸው።እባክዎን እነዚህን ጥያቄዎች በሚመለከት ያለዎትን ትክክለኛ ምላሽ በጥያቄዎቹ ትይዩ በተዘጋጀው ቦታ የ "X" ምልክት ያድርጉ። በመሆኑም፡ 5=ሁል ጊዜ እጠቀማለሁ፣ 4= አብዘኛውን ጊዜ እጠቀማለሁ፣ 3= በመጠኑ እጠቀማለሁ፣ 2=አልፎ አልፎ እጠቀማለሁ እና 1=በጭራሽ አልጠቀምም የሚለውን ስኬል በመጠቀም ያለዎትን ምላሽ ይግለፁ።

3.1 የሚከተሉት ጥያቄዎች የተማሪዎች የሚዜና ውጤት ከማመንጨት ጋር ተያያዥነት ያላቸው ናቸው።

ተ.ቁ	የጥያቄው ዝርዝር	5	4	3	2	1
1	እኔ የተማሪዎች ውጤት ለማመንጨት ለተማሪዎችን ቴስት የሚሰጠው እያንዳንዱን ንዑስ ርዕስ/ርዕስ ካስተማርኩ በኋላ ወድያውኑ ነው።					
2	እኔ የተማሪዎችን የፈተና/ምዘና ውጤት የማመነጨው የእስክብርቶና ወረቀት ቴስት በመጠቀም ነው፡					
3	እኔ የተማሪዎችን የምዘና ውጤት ለማመንጨትን የተለያዩ የምዘና ቴክኒኮችን (ለምሳሌ፡ የክፍል ውስጥ አክቲቭትይ፣ የቤት ሥራ፣ የቡድን ሥራ፣ የክፍል ውስጥ ተከታታይ ምዘና/ቴስት) በዋናነት እጠቀማለሁ።					
4	የመነጨው/የተጠራቀመው የተማሪዎች ፈተና/ምዘና ውጤት በማርክ ማጠራቀሚያ ላይ በአግባቡ ተጠራቅሟል/ተመዝግቧል።					
5	የመነጨው/የተጠራቀመው የተማሪዎች የምዘና ውጤት መረጃ ለክፍል ውስጥ መማር ማስተማር መሻሻል እንደ መሰረት/ግብዓት እጠቀማለሁ።					
6	የተማሪዎችን የፈተና/ምዘና ውጤት ማመንጨት ለውጤት ትንተናና ለመማር ማስተማር መሻሻል አስተዋፅኦ እንድኖረው አድርገ እጠቀማለሁ።					

3.2 የሚከተሉት ጥያቄዎች ከተማሪዎች ምዘናውጤት ትንተና ጋር ተያያዥነት ያሳችው ናችው::

ተ.ቁ	የጥያቄዎች ዝርዝር	5	4	3	2	1
1	እኔ የተማሪዎችን ምዘና ውጤት ትንተና የሚሠራው የአጠቃላይ የክፍል አማካይ ችሎታ ለማየት ነው::					
2	እኔ የተማሪዎችን ምዘና ውጤት ስከት ትንተና የሚሠራው የአያንዳንዱ ተማሪ አማካይ ችሎታ ለማየት ነው::					
3	እኔ የተማሪዎችን ፈተና ውጤት ትንተና የሚሠራው ተማሪዎችን በፅታ በመለየት ነው::					
4	እኔ የተማሪዎችን ፈተና ውጤት ትንተና የሚሠራው ተማሪዎችን በሚኖሩት አካባቢ (ገጠር እና ከተማ) በመለየት ነው::					
5	እኔ የተማሪዎች ውጤት ለውጥ (dispersion) ትንተና የሚሠራው ከአማካይ ውጤት (mean) ነው::					
6	በማስተምረው የትምህርት ዓይነት የተከናወነውን ውጤት ትንተና መግለጫ በግራፍ አሳያለሁ::					

3.3 የሚከተሉት ጥያቄዎች መምህራን የተማሪዎች የምዘና ውጤትመረጃ ከመጠቀም ጋር ተያያዥነት ያሳችው ናችው::

ተ.ቁ	የጥያቄዎች ዝርዝር	5	4	3	2	1
1	የተማሪዎችን የምዘና ውጤት መረጃ የእነሱን ደካማና ጠንካራ ጎን ለመለየት እንደ ጠቃሚ ማስረጃ አድርገ እጠቀማለሁ፣					
2	የተማሪዎን ውጤት መረጃ የመማር ማስተማር ዘዴን ለማሻሻል እጠቀማለሁ፣					
3	የተማሪዎችን ደካማና ጠንካራ ጎን ለይቼ ለተማሪዎች የመግለጽ ልምድ አለኝ::					
4	ስለ ተማሪዎች ምዘና ውጤት መረጃ አጠቃቀም በተመለከተ በት/ቤት ወይም ዲፓርትሜንት ደረጃ በሚደረጉ ውይይቶች ላይ የመሳተፍ በቂ ልምድ አለኝ::					
5	በተማሪዎች ላይ ለውጥ ወይም መሻሻል መኖሩን ለማየት በተለያዩ ጊዜያት የወሰዱን ፈተና ውጤት አወዳድራለሁ::					
6	የክፍል ስም ጠሪ መምህር ሆኜ ሲሠራ:- የተማሪን ወላጅ በመጥራት ስለ ልጁ ትምህርት ችሎታና መሻሻል እንዲሁም በሚያደረስት ድጋፍ ዙሪያ ውይይት አደርጋለሁ::					

3.4. የሚከተሉት ጥያቄዎች የተማሪዎች የሚዜና ውጤትን ለመማር ማስተማር ሂደት መሻሻል መ/ራን በአግባቡ እንዳይጠቀሙ ከሚያደርጉ ተፅዕኖዎች/ተግዳሮቶች ጋር ተያያዥነት ያላቸው ስለሆኑ በሠንጠረዡ ውስጥ በተዘረዘሩ በእያንዳንዱ ጥያቄዎች ትይዩ ያለዎትን ምላሽ ለመስጠት የ "X" ምልክት ይጠቀሙ:: አባክዎን፡

3=ቀልፍ ችግር፣ 2= ገለልተኛ (ኒውትራል) እና 1=ቀልፍ ችግር አይደለም በሚል ይጠቀሙ፡፡

3.4.1 መምህራን ላይ የሚታዩ ችግሮች

ተ.ቁ	የጥያቄዎች ዝርዝር	3	2	1
1	የመምህራን ችሎታ ያለመኖር ችግር (የሙያዊ ብቃት አለመኖር)			
2	የመምህራን ዕውቀትና ክህሎት ችግር			
3	የመምህራን የልምድ ማነስ			
4	የመምህራን የትምህርት ደረጃቸው ዝቅተኛ መሆን			
5	መምህራን ወደ ክፍል ሲገቡና ተማሪዎችን ሲፈትኑ የዝግጅት ማነስ			
6	ጥቅማጥቅም ፈላጊ የመሆን ችግር/ቲግባራትን ሁሉ ከጥቅማጥቅም ጋር ማገናኘት			
7	የመምህራን ተነሳሽነት ያለመኖር			

3.4.2 ርዕሰ መምህሩ ላይ የሚታዩ ችግሮች

ተ.ቁ	የጥያቄዎች ዝርዝር	3	2	1
1	የርዕሰ-መምህሩ የችሎታ ያለመኖር ችግር (የሙያዊ ብቃት አለመኖር)			
2	የርዕሰ-መምህሩ የልምድ ማነስ			
3	የርዕሰ-መምህሩ የትምህርት ደረጃ ዝቅተኛ መሆን			
4	መረጃን መሰረት ያደረገ ውሳኔ ለማስተላለፍ አቅምና በራስ መተማመን አለመኖር			
5	ለመምህራን ድጋፍ ለመስጠት አቅምና ችሎታ ያለመኖር			
6	በተማሪዎች ምዘና ውጤት ትግበራ ላይ ለመምህሩ አርአያ ያለመሆን			
7	የመምህራን ተነሳሽነት ማነስ			

3.4.3 ት/ቤቱ ላይ የሚታዩ ችግሮች

	የጥያቄዎች ዝርዝር	3	2	1
1	ሥልጠና ያለማዘጋጀት ችግር			
2	የተማሪዎች ውጤት (መረጃ) አደራጅና ተንታኝ ቡድን (አንሺየትቭስ) አለመኖር			
3	የትምህርት አንፎርሜሽን ኮሙንኬሽን ቴክኖሎጂና ቁሳቁሶች ያለመኖር			
4	ግንባር ቀደም መምህራንን የማበረታታትና የመሸለም ልምድ ዝቅተኛ መሆን			
5	የተማሪዎች ምዘና ውጤትን ለማመንጨት፣ ለመተንተንና ለመጠቀም በቂ በጀት (ርሶርስ) ያለመመደብ			
6	የተማሪዎች የፈተና ውጤት መረጃዎች (ለምሳሌ፡ ሮስተር፣ ካርድ፣ ማርክ ማጠራቀሚያና ሌሎች የተማሪዎች ፖርቲፎሊዮ) አደረጃጀት ደካማ መሆን			
7	በመረጃ የተደገፈ ወቅታዊ ውሳኔ ለማስተላለፍ የት/ቤቱ ድጋፍ ያለመኖር			

Appendix-G

አድስ አበባ ዩኒቨርስቲ

የሥነ-ትምህርትና የባህሪይ ጥናት ኮሌጅ

የሥርዓተ-ትምህርትና መምህራን ልማት ትምህርት ክፍል

ቃል- መጠይቅ

የዚህ ቃለ-መጠይቅ ዓላማ በደ/ብ/ብ/ሕ/ክ/መ በቁጫ ወረዳ የ1ኛ ደረጃ ት/ቤቶች መ/ራን የተማሪዎችን የሚዜና ውጤት ለክፍል ውስጥ መማር ማስተማር መሻሻል ምን ያህል እንደሚጠቀሙ እና ያጋጠሙ ችግሮችን መለየት በተመለከተ ለሚደረገው ጥናታዊ ጽሑፍ መረጃ ለመሰብሰብ ነው፡፡ ይህ ጥናት በአዲስ አበባ ዩኒቨርስቲ የሥርዓተ-ትምህርትና መምህራን ልማት ጥናት ትምህርት ክፍል የካሪኩለምና እንስትራክሽን የትምህርት መስክ ለሁለተኛ ድግሪ ማሚያ የሚሠራ ሲሆን ፋይዳው ትምህርታዊ ዓላማ ብቻ ያለው ነው፡፡ ስለሆነም በማጠቃለያ ሪፖርትም ሆነ በአጠቃላይ የጥናቱ ሂደት እርስዎ ስምና አድራሻ የማይገለጽና በምስጥር እንደሚያዝ እያረጋገጥኩ የእርስዎ ትክክለኛ ምላሽ ለዚህ ጥናት ስኬት ጉልህ ድርሻ ያለው ስለሆነ ልባዊና ትክክለኛ ምላሽ እንድሰጡኝ በአክብሮት እጠይቃለሁ፡፡ ይህ በመሆኑ ለዚህ መጠይቅ ምላሽ መስጠት በምንም መልኩ አይገዳዎትም፡፡

በመጨረሻም ለዚህ ቃለ-መጠይቅ ውድ ጊዜያዎትን ስለተባበሩኝ በቅድሚያ ልባዊ ምስጋናዬን አቀርባለሁ፡፡

አጠቃላይ መመሪያ

1. ስም መጻፍ አያስፈልግዎትም፡፡
2. ለመልስ ክፍት በተተወው ቦታዎች የ “X” ምልክት ያድርጉት
3. በጽሁፍ መልስ መስጠት ስያስፈልግዎት በተሰጡት ክፍት ቦታዎች አጭርና ግልፅ መልስ ይፃፉ፡፡
4. ለሁሉም ጥያቄዎች ምላሽ በመስጠት ይተባበሩኝ፡፡

ስሚሰጡኝ ትክክለኛ መረጃ በቅድሚያ አመሰግናለሁ!!

ንዑስ ክፍል አንድ፡ የግል መረጃ

1.1 የት/ቤቱ ስም ----------

1.2 ፃታ:- ሀ. ወንድ ☐ ለ. ሴት☐

1.3 ዕድሜ (በዓመት)

ሀ. ከ 20 በታች ☐ ለ. ከ 21-24 ☐ ሐ. ከ 25-29 ☐

መ. ከ30-34 ☐ ሠ. ከ 35-39 ☐ ረ. 40 እና በላይ ☐

1.4 የትምህርት ደረጃ:-

ሀ. ቲቲአይ ☐ ለ. ዲፕሎማ ☐ ሐ. ዲግሪ☐ መ. ሌላ ☐

1.5 የተመረቁበት ትምህርት መስክ: ----------

1.6 አገልግሎት (በዓመት):-

ሀ. ከ 1-5 ☐ ለ. ከ 6-10 ☐ ሐ. ከ 11-15 ☐

መ. ከ 16-20 ☐ ሠ. ከ 21-25 ☐ ረ. ከ 25 በላይ ☐

ክፍል ሁለት፡ ለር/መ/ራን የተዘጋጁ ቃል-መጠይቅ ጥያቄዎች

1. የተማሪዎችን የምዘና ውጤት ለማመንጨት ቁልፍ መሳሪያ ሆኖ የሚያገለግለው የትኛው መመዘኛ ብለው ያስባሉ? ሀ. ማጠቃለያ ፈተና ለ. ተከታታይ ሚዘና
2. የ1ኛ ጥያቄ ምላሽ "ተከታታይ ምዘና" ከሆነ ለምን ይመስለዎታል?
3. በት/ቤትዎ መምህራን የተማሪዎችን የምዘና ውጤት ትንተና እንዴት ይሠራሉ?
4. በት/ቤትዎ መምህራን የተማሪዎችን ውጤት መረጃ በምን መልኩ ይጠቀማሉ?
5. የተማሪዎችን ውጤት መረጃ የክፍል ውስጥ መማር ማስተማር ሂደትን ለማሻሻል መምህራን እንደ መረጃ እንዴት ይጠቅማል?
6. የተማሪዎችን ምዘና ውጤት ለመማር ማስተማር እንድጠቀሙ መምህራንን እንዴት ይደግፋሉ?
7. በተማሪዎችን ምዘና ውጤት አጠቃቀም ላይ ያለው ጠንካራ ጎንና ደካማ ጎን/ጉድለት ይግለጹ፡፡

   7.1 ጠንካራ ጎን? 7.1 ደካማ ጎን ተብለው የሚወሰዱት ምን ምን ናቸው?
8. በት/ቤትዎ የተማሪዎች ምዘና ውጤት ማመንጨት፣ ትንተናና አጠቃቀም ላይ ቁልፍ ችግሮች ተብለው የሚወሰዱት ምንድን ናቸው? በመምህራን ላይ የሚታዩ ችግሮች፣ በር/መምህራን ላይ የሚታዩ ችግሮች እና በት/ቤቱ ላይ የሚታዩ ችግሮች?)፡፡ ሌሎች ችግሮች ካሉም ይጥቀሱ፤
9. በጥያቄ ቁጥር-8 ላይ ለተዘረዘሩ ችግሮች ለወደ ፊት መፍትሄዎች ናቸው ብለው የሚያስቡት ምን ምን ናቸው?

Appendix-H

አድስ አበባ ዩኒቨርስቲ

የሥነ-ትምህርትና የባህሪይ ጥናት ኮሌጅ

የሥርዓተ-ትምህርትና መምህራን ልማት ትምህርት ክፍል

ለዲፓርትሜንት ኃላፊዎች/ተጠሪዎች የተዘጋጀ ቃለ መጠይቅ

1. **የተማሪዎችን የምዘና ውጤት ለማመንጨት ቁልፍ መሳሪያ ሆኖ የሚያገለግለው የትኛው መመዘኛ ብለው ያስባሉ?**
   ሀ. ማጠቃለያ ፈተና **ለ. ተከታታይ ሚዘና**

2. **የ1ኛ ጥያቄ ምላሽ "ተከታታይ ሚዘና" ከሆነ ለምን ይመስለዎታል?**
3. **በት/ቤትዎ መምህራን የተማሪዎችን ውጤት መረጃ ትንተና እንደት ይሠራሉ?**
4. **በት/ቤትዎ መምህራን የተማሪዎችን ውጤት መረጃ በምን መልኩ ይጠቀማሉ?**
5. **በት/ቤትዎ/በዲፓርትሜንተዎ መምህራን የተማሪዎችን ውጤት መረጃ የክፍል ውስጥ መማር ማስተማር እንድሻሻል እንደ መረጃ ይጠቀማሉ?**
6. **በተማሪዎች ውጤት መረጃ ትንተናና አጠቃቀም ላይ ለመምህራን የሚሰጡት ድጋፍ እንደት ነበር?**
7. **የተማሪዎችን ምዘና ውጤት አጠቃቀም ላይ ያለው ጠንካራ ጎንና ደካማ ጎን/ጉድለት ይግለጹ::**

   7.1 **ጠንካራ ጎን ተብለው የሚወሰዱት ምን ምን ናቸው?**

   7.2 **ደካማ ጎን ተብለው የሚወሰዱት ምን ምን ናቸው?**

8. **በት/ቤትዎ የተማሪዎች ምዘና ውጤት ማመንጨት፣ ትንተናና አጠቃቀም ላይ የመምህራን ችግሮች ተብለው የሚወሰዱት ምንድን ናቸው?**
   8.1 **በመምህራን ላይ የሚታዩ ችግሮች?**
   8.2 **በር/መምህራን ላይ የሚታዩ ችግሮች?**
   8.3 **በት/ቤቱ ላይ የሚታዩ ችግሮች?**
   8.4 **ሌሎች ችግሮች ካሉም ይጥቀሱ?**
9. **በጥያቄ ቁጥር-7 ላይ ለተዘረዘሩ ችግሮች ለወደ ፊት መፍትሄዎች ናቸው ብለው የሚያስቡት ምን ምን ናቸው?**

Appendix-I

አድስ አበባ ዩኒቨርስቲ

የሥነ-ትምህርትና የባህሪይ ጥናት ኮሰጅ

የሥርዓተ-ትምህርትና መምህራን ልማት ትምህርት ክፍል

ለመምህራን የተዘጋጀ ቃለ-መጠይቅ

1. በት/ቤትዎ ውስጥ የተማሪዎችን የምዘና ውጤት መረጃ አጠቃቀምን እንደት ይገልፁታሉ?
2. የተማሪዎች ውጤት መረጃ ለክፍል ውስጥ ማስተማር ሥራ መሻሻል እንድውል የአርስዎ ሚና እንደት ነበር?
3. በት/ቤትዎ ውስጥ የተማሪዎችን የፈተና/ምዘና ውጤት መረጃ ትንተናን እንደት አዩት/ተገነዘቡት?
4. በት/ቤትዎ ውስጥ ሁሉም መምህራን በተማሪዎች ውጤት ማመንጨት፣ መተንተንና መጠቀም ላይ እኩል ችሎታ እና አቅም አላቸው ብለው ያስባሉ?
   ሀ. አዎን ለ. አይደለም
5. ለጥያቄ ቁጥር -3 መልስዎ "አይደለም" ከሆነ ልዩነት የፈጠረው ዋናው ምክንያት ምንድን ነው?
6. ይህንን ችግር ለመፍታት ምን መፍትሄ መውሰድ ይጠበቃል?

Appendix J

Teachers' characteristics and student achievement data generation

Variable	N	Mean	SD	Test Results	P
Sex					
(a) Male	78	3.84	.57	t= .94	.35
(b) Female	45	3.74	.49		
Total	123	3.80	.54		
Age					
(a) < 20	2	3.33	.47	F=1.11	.36
(b) 20-24	21	3.71	.47		
(c) 25-29	50	3.88	.58		
(d) 30-34	30	3.79	.49		
(e) 35-39	11	3.61	.58		
(f) ≥ 40	9	3.92	.53		
Total	123	3.80	.54		
Qualification					.43
(a) Certificate	26	3.89	.56	F= .92	
(b) Diploma	73	3.81	.54		
(c) Degree	23	3.68	.49		
(d) Below TTI	1	3.33	-		
Total	123	3.80	.54		
Experience					
(a) 1-5	29	4.06	.53	F=1.42	.22
(b) 6-10	49	3.99	.53		
(c) 11-15	26	3.68	.53		
(d) 16-20	7	3.74	.36		
(e) 21-25	7	3.45	.62		
(f) > 25	5	3.93	.49		
Total	123	3.80	.54		

Appendix-K

Teachers' characteristics and student achievement data processing

Variable	N	Mean	SD	Test Results	P
Sex					
(a) Male	78	3.37	.58	t= .12	.91
(b) Female	45	3.36	.53		
Total	123	3.37	.56		
Age					
(a) < 20	2	3.58	.51	F= .27	.93
(b) 20-24	21	3.32	.53		
(c) 25-29	50	3.40	.65		
(d) 30-34	30	3.30	.51		
(e) 35-39	11	3.39	.36		
(f) ≥ 40	9	3.46	.18		
Total	123	3.37	.56		
Qualification					
(a) Certificate	26	3.67	.55	F= 4.63	**.004**
(b) Diploma	73	3.34	.55		
(c) Degree	23	3.11	.50		
(d) Below TTI	1	3.17	-		
Total	123	3.37	.56		
Experience					
(a) 1-5	29	3.41	.54	F= .32	.90
(b) 6-10	49	3.41	.53		
(c) 11-15	26	3.41	.54		
(d) 16-20	7	3.24	.44		
(e) 21-25	7	3.24	.60		
(f) > 25	5	3.57	.54		
Total	123	3.37	.56		

Appendix L

Teachers' Characteristics and Their Achievement Data Utilization

Variable	N	Mean	SD	Test Results	P
Sex					
(a) Male	78	3.41	.63	t=1.02	.31
(b) Female	45	3.53	.66		
Total	123	3.45	.64		
Age					
(a) < 20	2	3.92	.83	F=1.69	.14
(b) 20-24	21	3.46	.48		
(c) 25-29	50	3.51	.66		
(d) 30-34	30	3.48	.64		
(e) 35-39	11	2.97	.69		
(f) ≥ 40	9	3.59	.62		
Total	123	3.45	.64		
Qualification					
(a) Certificate	26	3.49	.63	F=1.13	.34
(b) Diploma	73	3.49	.62		
(c) Degree	23	3.33	.71		
(d) Below TTI	1	2.50	-		
Total	123	3.45	.64		
Teaching Experience					
(a) 1-5	29	3.35	.46	F= .50	.78
(b) 6-10	49	3.45	.53		
(c) 11-15	26	3.40	.80		
(d) 16-20	7	3.59	.46		
(e) 21-25	7	3.17	.96		
(f) > 25	5	3.60	.49		
Total	123	3.45	.64		