DISTRIBUTED LEADERSHIP AND STUDENTS' ACADEMIC ACHIEVEMENT IN SELECTED SECONDARY SCHOOLS OF JIMMA ZONE

BY

MOHAMMED HUSEN DIGA

20 OCTOBER 2019

JIMMA UNIVERSITY

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A THESIS SUBMITTED TO THE DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT OF JIMMA UNIVERISTY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR DEGREE OF MASTER OF ARTS IN SCHOOL LEADERSHIP

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20 OCTOBER 2019

JIMMA UNIVERSITY

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COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCE

DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT

This is certify that the thesis prepared **Mohammed Husen Diga** with topic: **Distributed Leadership and Students' Academic Achievement in Selected Secondary Schools of Jimma Zone** and submitted to in partial fulfillment of the requirements for the degree of Master of Art in School Leadership complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

Approved by Board of Examiners:

1. Chairperson name	Signature	Date
2. Advisors Name	Signature	Date
3. External examiner	Signature	Date
4. Internal examiner	Signature	Date

Acknowledgements

First and foremost, I would like to express my heart-felt thanks to my advisor Mr. Tadesse Abera (Asst. Prof.) for the unreserved, critical and constructive comments that contributed to the overall accomplishment of this thesis. Certainly, had it not been for his sustainable encouragement, this thesis would not have been a success.

Next, I am very much indebted to express sincere and profound gratitude to my wife Chaltu Arega and her family who shouldered the burden of carrying responsibility for our child, during my university stay in summer and my mother Tejitu Debela for her encouragement and support.

I would like to express my thanks to the following individuals who played a substantial role in the successful accomplishment of my study by providing technical as well as moral support starting from the initial to the completion of this thesis work. My dearest friends Jimma Daba , Misganu Kebede , Sabit Jifar and Reshad Hasan .

My thanks also go to Yodit Tesfaye, for editing and providing constructive comments on the whole research work.

Last but not least, I would like to express my thanks to Jimma Zone Educational Office experts and all secondary school leaders and teachers for their willingness to give necessary information through questionnaire to make the study successful.

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Abbreviations and Acronyms

Df: degree of freedom

EGSLCE: Ethiopia general school leaving certificate examination

MoE: Ministry of Education

SD: Standard Deviation

SMC: Squared multiple correlation

SPSS: Statically Package for Social Science

VIF: Variance inflation factor

WM: Weighted mean

ABSTRACT

The purpose of this study was to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. The study employed a correlational research design and quantitative approach. A total of 16 secondary schools were selected by simple random sampling technique, particularly through lottery methods. Regarding the respondents of the study, 96 department heads, 208 teachers, 16 vice-principals and 24 unit leaders were selected using simple random sampling technique. On the other hand, 16 school principals and 8 supervisors were taken as respondents of the study. Data for the study were collected through questionnaire. Data obtained through questionnaire were analyzed using statistical tools like percentages, mean, weighed mean, standard deviation, Pearson correlation coefficient, independent sample t-test, and multiple regression analysis used by computing the data on SPSS version 20. The finding of this study indicated that distributed leadership practices were moderate in building effective relationship and sharing leadership responsibilities. However, distributed leadership practice was high in setting and defining the school vision, mission and goal. Furthermore, the findings of this study revealed that, there is statistically significant relationship between distributed leadership practice and students' academic achievement. The finding of this study indicated that patterns of distributed leadership (formal, pragmatic and coordinated) had significant and strong positive impacts on students' academic achievement. The major finding of this study indicated that patterns of distributed leadership (formal, pragmatic and coordinated) had significant and strong positive correlation with students' academic achievement as well as emerged as the most significant predictor of students' academic achievement. Therefore, it was recommended that the school leaders be committed to assisting the teaching learning process and providing distributed leadership by developing collaboration, coordination, networking and partnerships work relationships between all staff members for students' academic success.

CHAPTER ONE

INTRODUCTION

This chapter deals with background of the study, statement of the problem, objectives of the study, significance of the study, delimitations of the study, limitations of the study, definitions key terms and organization of the study.

1.1. Background of the Study

The term leadership is defined in different ways. There are many definitions of leadership. Gronn (2002) defined leadership as a process where by an individual influences a group of individuals to achieve a common goal in the organization. Leadership is a major way in which people change the minds of others and move organizations forward to accomplish goals. However, in the context of a model in which leadership is shared across an organization or school, the definition of leadership takes on a more diffuse nature.

Schools have been given a clear mandate to improve student achievement and a widespread belief exists that leadership makes a significant contribution to that mandate. Determining how leadership influences student achievement is a challenging task. Numerous studies exist on principal leadership and more recently the body of research on distributed leadership has increased (Bennett, Harvey & Woods, 2003; Gronn, 2002; Harris, Leithwood & Hopkins, 2007; Harris & Spillane, 2008; Leithwood ,2008; MacBeath ,2005; Spillane, 2006; Timperley, 2005). Many studies have attempted to capture which leadership behaviors and attitudes make the greatest difference. Leadership behaviors and attitudes have an indirect impact on student learning (Day, 2007). Leadership influence on internal school processes which are directly related to student achievement (Hallinger & Heck, 1996; Leithwood, 2006; Robinson, Lloyd & Rowe, 2008; Robinson & Timperley, 2007). Therefore it is productive to describe how leadership distribution interacts with other variables that can be shown to bear a more direct relationship to student academic achievement (Anderson, Moore & Sun, 2008).

Distributed leadership is a relatively recent concept of educational leadership which focuses not only on the leadership of the head of a school but also on that of other team members. New theories for leadership, such as distributed leadership, are produced in the education field, often with little empirical inquiry through this relatively brief period of time. As Harris (2007) explains,

a distributed leadership focuses upon the interactions, rather than the actions, of those in formal and informal leadership roles. It is primarily concerned with leadership practice and how leadership influences school and instructional improvement (Spillane, 2006). A distributed perspective of leadership urges us to take leadership practice as the focus of interest and address both teachers and administrators as leaders (Spillane, 2005). Distributed leadership is also central to system reconfiguration and organizational redesign which necessitates lateral, flatter decision-making processes (Hargreaves, 2007).

In general the above evidences reveals that distributed leadership has become the most widely accepted developed countries to improve students' academic achievement in the schools. However, the concept and usage of distributed leadership is little understood in developing countries like Ethiopia. It advocates the implementation in those contexts due to the continuous success of it in the developed world. Harris (2002) identifies distributed leadership as a factor of success for a leader in a challenging context depending on the particular situation and context of the school. This type of leadership encompasses an achievable and sustainable practice of school leadership that evolves to a wider distribution of essential leadership responsibilities across a school (Elmore, 2000). It is a leadership concept and model that could break the isolation of traditional structure of leadership, improving student achievement and making leadership more collaborative in the school.

In schools creating collaborative structures and organizations, the starting point is the development of teacher, parent, and community organizations as partners in educational development. Education is a collaborative and cooperative activity. Teachers, students, parents and other stakeholders with whom school works possess untapped potential in all areas of human endeavor (Sergiovanni, 2001).

Therefore, it is unwise to think that principal is the only one providing leadership for school student achievement improvement. In Ethiopia, since the implementation of the 1994 Education and training policy (ETP), the educational is decentralized. Expectations are increased efficiency and improved financial control, a reduction of bureaucracy, a restoration of the confidence in government through a redistribution of authority, an increased responsiveness to local communities, creative management of human resources, improved potential for innovation and as an overarching aspiration, the creation of conditions that provide more incentives for schools to

improve their own quality (MoE, 1999). In order to implement properly the process various trainings were provided to principal and teachers (MoE, 2004). Since then, promising achievements have been gained in access and equity of education, but quality of education is still suffering. To make school leadership improve students' academic achievement, it should ensure the involvements of all the stakeholders: teachers, parents, community and students (MoE, 2001). In this regard, various trainings have been given to principals and teachers at zonal, Woreda and school level.

1.2. Statements of the Problem

Distributed leadership is an idea that is growing in popularity. There is wide spread interest in the notion of distributing leadership although interpretations of the term vary. A distributed leadership perspective recognizes that there are multiple leaders (Spillane et al., 2004) and that leadership activities are widely shared within and between schools (Harris, 2007). A distributed perspective on leadership acknowledges the work of all individuals who contribute to leadership practice, whether or not they are formally designated or defined as leaders. Distributed leadership is also central to system reconfiguration and organizational redesign which necessitates lateral, flatter decision-making processes (Hargreaves, 2007).

In the increasingly complex world of education, the work of leadership will require diverse types of expertise and forms of leadership flexible enough to meet changing challenges and new demands (Wenger, 2002). There is a growing recognition that the old organizational structures of schooling simply do not fit the requirements of learning in the twenty-first century (Harris, 2004). New approaches of schooling are emerging based on collaboration or team working, networking or interacting and multiple leaders. These new and more complex forms of schooling require new and more responsive leadership approaches. New approaches to leadership such as distributed leadership are needed to traverse a very different school setting (Harris, 2008).

Most recently research has shown that the patterns of leadership distribution matter within school and that distributed leadership practice is more likely to equate with improved school performance and students' outcomes (Leithwood, 2004, 2007). As National College for School Leadership (2003) suggests, the relationship between distributed leadership and learning is a crucially important issue. Although researchers like Harris, Day, Hadfield, Hopkins, Hargreaves and Chapman (2002) have identified distributed leadership as leadership qualities associated with

improving schools and students' outcomes. Research by Silns and Mulford (2002) has shown that student academic achievement is more likely to improve when leadership sources are distributed throughout the school community and when teachers are empowered in areas of expertise. More researches are required to understand which patterns of distributed leadership may have significant impact on students' achievement (NCSL, 2003).

Studies are still needed to build up a sound database on which to assess the effectiveness of distributed leadership strategies in raising school achievement, especially investigation of the effects of distributed leadership strategies in raising student achievement.

There have been many studies related to distributed leadership. Malloy (2012) suggested that plan fully aligned distributed leadership had a significant effect on students' achievement. The principals' distributed Leadership style with teacher leaders seems to have positive effect on students' achievement and failing to enlist teacher leaders in a common vision might have a negative impact on students' academic achievement (Chen, 2007). Nayeem (2010) suggested that distributed leadership is seldom discussed and operated in developing countries; it advocates the implementation in secondary schools contexts due to the continuous success of it in the developed world.

From the three studies above, distributed leadership practices seems to have positive relationship with student achievement. However, the concept and usage is little understood in developing countries like Ethiopia. The school leaders seldom think about how distributed leadership would be beneficial for a school and why they should use it. Research to show the relationship between distributed leadership and students' academic achievement in schools is relatively scarce. There is a need for more work on schools to understand the relationship between distributed leadership and students' academic achievement. As a researcher know and observation of EGSLCE score for grade 10 and annual report of Woreda Education Office, Zone Education Office and Regional Education Bureau there is low participation of teachers, parents, community and students in the area of school leadership as while as low students' academic achievement in EGSLCE was observed. The school leaders were seen trying to cover all the school leadership activities alone rather than sharing of leadership responsibility. In addition, no study was undertaken locally regarding relationship between distributed leadership and students' academic achievement so far. Therefore, to fill this gap, the study was intended to investigate relationship between distributed

leadership and students' academic achievement in selected secondary schools of Jimma Zone by raising the following basic questions.

1. What is the practice of distributed leadership in selected secondary schools of Jimma Zone?
2. What is the relationship between distributed leadership practices and students' academic achievement in selected secondary schools of Jimma Zone?
3. What is the relationship between patterns of distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone?
4. What impact do the patterns of distributed leadership have on students' academic achievement in selected secondary schools of Jimma Zone?

1.3. Objectives of the Study

1.3.1 General Objective

The general objective of this study was to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone.

1.3.2 Specific Objectives

To assess the practice of distributed leadership in selected secondary schools of Jimma Zone.

To identify the relationship between distributed leadership practices and students' academic achievement in selected secondary schools of Jimma Zone.

To examine the relationship between patterns of distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone.

To identify the impact of patterns of distributed leadership on students' academic achievement in selected secondary schools of Jimma Zone.

1.4. Significance of the Study

The purpose of this study was to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. The study may initiate students, teachers and school leaders of low passing rate score schools to assess their school problems as well as school leaders' problem and take remedial actions on their work. For teachers, the study could make contributions to provide important insights for teaching as a profession and for teacher professionalism as teachers become adapted to the notion of distributed leadership and to the idea of changing their practice. Schools Leaders of educational institutions

would get some ideas on how to become effective in their leadership practices, moreover, it is essential to understand how the practice of leadership is stretched over the work of multiple leaders in an organization since it is highly unlikely that only a single leader can improve the school performance. It was also expected that, the study serves as stepping-stone for those who want to carry out in-depth research around the topic.

1.5. Delimitation of the Study

The study was delimited to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. Quantitative research approach was employed in order to achieve this purpose. It is clear that conducting a study in all secondary schools of the Zone was advantageous in order to have a complete picture of the relationship between distributed leadership and students' academic achievement. However, due to time and finance constraints the study was delimited to eight (8) sample woredas and sixteen (16) selected secondary schools of Jimma Zone. A total number of research participants were 368, i.e. 16 (100%) school principals, 16 (66.6%) vice principals, 24 (75%) unit leaders, 96 (50%) department heads, 8 (100%) supervisors and 208 (32.5%) of teachers from the selected secondary schools of Jimma Zone. As a major focus of the study, it was delimited to investigate relationship between distributed leadership and students' academic achievement. Moreover, it was delimited to government first cycle secondary schools in Jimma Zone.

1.6. Limitations of the Study

This study has some limitations. The first important limitation was lack of relevant local review literature on the study area. The researcher overcomes this limitation by searching different internet accesses. Therefore, the researcher was got enough relevant review literature on the study area. The second limitation was low level of cooperation on the part of some teachers and leaders to fill the complete part of the questionnaire in accordance with the time of appointment. The researcher overcomes this limitation, through orientation repeatedly on the purpose of the study and given ample time to fill the questionnaire and made a maximum effort to get relevant data. The third limitation was research limited to only quantitative research methods as the result it may affect generalization of the findings. Researcher overcomes this limitation, taken large sample population.

1.7. Definitions of Key Terms

For the purpose of this study, the following terms are defined in an attempt to assist the reader in understanding key concepts:

Leadership: The process of influencing the activities of an individual or group in effort towards goal achievement in a given situation (Krug, 1992).It involves the process in which influence is exerted by one person over others in guiding, structuring, and facilitating organizational activity (Yukl, 1998).

School leaders: Refers to instructional leaders namely, principals, vice-principals, supervisors, department heads and unit leaders that take part in the leadership of the teaching and learning and management (Sergiovanni, 2001)

Secondary school: Refers to school teaching grades (9th -10th) according to Ministry of Education (MoE, 2002)

Distributed leadership: Distributed leadership is a process bringing together people, materials, and organizational structure (Spillane et al., 2001) and sharing leadership activities within and between schools (Harris, 2007). Distributed leadership not only focuses on what or by whom is being distributed but also how the leadership is distributed. It also encompasses how the leaders synchronize his or her actions through mutual influence.

Students' academic achievement: the definition is in terms of pass rates and success in national examinations or in terms of the results obtained on the national examinations by the students.

1.8. Organization of the Study

This study was organized into five chapters. The first chapter dealt with background of the study, statement of the problem, objectives of the study, significance of the study, delimitation of the study, limitations of the study and definition of key terms. The second chapter presented a review of relevant literatures. Chapter three presented research design and methodology including the sources of data, the study population, sample size and sampling technique, instrument of data collection, validity and reliability of the instrument , data collection procedures , methods of data analysis and ethical consideration. The fourth chapter was dealt with presentation, analysis and interpretation of the gathered data. The fifth chapter was dealt with summary, conclusions and recommendations of the study.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

INTRODUCTION

This chapter describes the conceptualization of leadership, concept of distributed leadership, dimensions of distributed leadership practice, distributed leadership and student academic achievement, Tenets of distributed leadership, components of distributed leadership, patterns of distributed leadership, theoretical framework and conceptual framework was presented.

2.1. Conceptualization of Leadership

In order to have a comprehensive review of research and theories on leadership, a brief review of major lines of work is presented first. While acknowledging the contributions of previous research, several challenges need to be dealt with in order to understand the development of school leadership practice. Some of the earliest studies focused on studying traits of leaders in different sectors (Yukl, 1998). Researchers such as Stogdill (1948) reviewed 124 trait studies of leadership conducted from 1904 to 1947 and found several personal factors associated with leadership. These factors are capacity, achievement, responsibility, participation and status. During 1940s and 1950s, little attention was paid to examining how personality traits and aspects of contexts were interrelated in leadership studies. Even Stogdill himself concluded that the trait approach by itself resulted in negligible and confusing conclusions (Hoy & Miskel, 2001). As a consequence, "the effort to find universal qualities of leadership of great men proved fruitless" (Shorter & Greer, 1997) and Stogdill added a situational component to complement the leadership theories (Hoy & Miskel, 2001). Although providing valuable research findings, the focus of traditions in leadership studies is problematic (Spillane, 2004). Therefore, critics leveled at these ideas about single decision-makers in organization.

Recent researchers have recognized leaders' ability to mobilize others as organizational goals are achieved and pursued (Kouzes & Posner, 1995). Among recent studies of effective leadership in schools, one of the most consistent findings is that the authority needs not to be placed in the hand of one person but can be dispersed within the school in between and among people (Leithwood, Jantzi, Ryan & Steinbach, 1997; Day, 2000). This implies a reconfiguration of principals' leadership behaviors within the school since the growth of collaboration, networking and

partnerships means that organizational boundaries are changing and redefining leadership is taking place (Woods, Bennett, Harvey & Wise, 2004). It opens the possibility for all teachers to become leaders and to be able to create changes for school improvement (Harris & Muijs, 2003).

2.2. The Concept of distributed leadership

Bennett (2003) reviewed the distributed leadership literature from 1996 to 2002 using the keywords delegated, democratic, dispersed, and distributed leadership and found so many differences between approaches that they declined to consolidate them into a definition but chose to highlight three distinctive elements of distributed leadership that were common among the literature. First, leadership was the product of concretive action as opposed to additive action (Gronn, 2000; Spillane, 2001). Distributed leadership was not a set of tasks delegated to individuals based on their talents, it was a group of individuals pooling their expertise to accomplish a common task; creating an impact that is far greater than the summation of individual actions. Second, distributed leadership expanded the traditional boundaries of leadership. Although most literature on distributed leadership was focused on teachers as leaders there were truly no boundaries as to who could be included as a leader (Bennett, 2003). Last, expertise was stretched across the many and not the few (Spillane, 2004). Leadership was open because there were many possible contributors within an organization and if you could find them and bring them together they would enhance the concretive action.

Conceptualizing distributed leadership required researchers to shift their thinking from the principal to the action of leadership. The administrators role should not but ignored but the interaction of leadership was more important than the role of any individual. When multiple people with different sources of expertise worked together to solve a problem, this was distributed leadership (Elmore, 2003).

Distributed leadership being used as human capacity building was the fourth and final use. Its major tenet was that having more educators engaged in leadership would encourage those educators to learn more about themselves and the issues facing the school. The purpose was to increase the capacity of individuals, thereby multiplying the capacity of the organization, and in turn boost school improvement (Harris, 2006). This initiative did constitute growth in the area of leadership development but not enough to be a catalyst for school improvement (Copeland, 2003). Tian (2015) conducted their meta-analysis to determine if current literature on distributed

leadership addressed the lack of a common definition and the absence of empirical data on application of distributed leadership.

Distributed leadership is an idea that is growing in popularity. There is wide spread interest in the notion of distributing leadership although interpretations of the term vary. A distributed leadership perspective recognizes that there are multiple leaders (Spillane et al., 2004) and that leadership activities are widely shared within and between organizations (Harris, 2007).

A distributed model of leadership focuses upon the interactions, rather than the actions, of those in formal and informal leadership roles. It is primarily concerned with leadership practice and how leadership influences organizational and instructional improvement (Spillane, 2006). The term distributed leadership means different things to different people. However, as Bennett, Harvey, Wise and Woods (2003) point out, there seems to be little agreement as to the meaning of the term and interpretations vary. Bennett (2003) suggest that it is more practical to think distributed leadership as a way of thinking about leadership and Spillane (2006) suggests that distributed leadership is the framework for examining leadership. Other research concludes that distributed leadership is a developing process (MacBeath, 2005). In practice, there are many forms that distributed leadership can take place within schools.

MacBeath (2005) identifies six forms of distributed leadership. These are:

1. Formal distribution: where leadership is intentionally delegated or devolved.
2. Pragmatic distribution is characterized as a reaction to external events such as demands from government or the local authority or parental issues.
3. Strategic distribution focused on a longer-term goal of school improvement. .
4. Incremental distribution refers to a professional development in which people prove their ability to exercise more leadership they are given.
5. Opportunistic distribution means leadership doesn't need to be distributed because it is dispersed.
6. Cultural distribution develops when leadership is intuitive and embedded in the culture.

On the other hand, distributed forms of leadership focus on how leadership is distributed among formal and informal leaders. Distributed leadership is a form of joint action incorporating the individuals' activities in a school who work at mobilizing and guiding other teachers in the process of instructional change (Spillane, 2001). Elmore (2000) suggested some principles for

distributed leadership that focus on improving teaching and learning in school systems. First the purpose of leadership is to improve practice and performance. Second, improvement requires continuous learning, both by individuals and groups. Creating an environment that views learning as a collective good is critical for distributed leadership. Third, leaders lead by exemplifying the values the values and behaviors they want others to adopt. Since learning is central to distributed leadership, leaders must model the learning they expect others to engage in. The model of distributed leadership assumes that what happens in the classroom are for the collective good (Elmore, 2000) as well as individual concern. By respecting, acknowledging, and capitalizing on different expertise, distributed leadership is the glue in the improvement of instruction leading an organization toward instructional improvement (Elmore, 2000).

2.3. Dimensions of distributed leadership practice

A distributed perspective does not undermine the role of the school principal, but rather shows how leading and managing involve more than the actions of the school principals. School leadership and management do not reside exclusively in the actions of the school principal or in the actions of other formally designated leadership positions that are commonplace in schools (Spillane, Camburn & Pareja, 2007). Leading alone cannot solve all the complex problems and address all the challenging situations in a school. Every teacher contributes to the performance of the school (Schermerhorn, 2012). Avolio (2011) states that the core of being a leader is developing and helping people grow to their full potential where they can lead themselves effectively.

According to Bradford and Cohen (1998) sharing leadership responsibilities has substantial payoffs in the following ways: leadership exists at every level, the organization taps into the knowledge and energy of everyone, people from different units can tackle issues as a team and not as warring parties, the burdens of responsibility are shared broadly and the full talents of every employee is engaged. The possibility of distributed leadership in any school will depend on whether the head and the leadership team relinquish power, and the extent to which staff embrace the opportunity to lead (Harris, 2005).There are an increasing number of studies that highlight a powerful relationship between distributed forms of leadership and positive organizational change (Harris & Spillane, 2008). Most recently, research has shown that the patterns of leadership distribution matter within an organization and that distributed leadership practice is more likely to

equate with improved organizational performance and outcomes within the school (Harris & Spillane, 2008).

2.3.1. Setting and defining the schools vision, mission and goals

Kouzes and Posner (1995) found in their research that a clear vision is a powerful resource. A clear vision has a significant impact on followers. When leaders articulate their vision for the organization, people reported significantly higher levels of job satisfaction, commitment and productivity (Kouzes & Posner, 1995). It is quite evident that clearly explaining visions make a difference in terms of organizational effectiveness and improvement. For teacher leaders, the research evidence suggests that the inspiring a shared vision, which is critical to distributed leadership practice, is based on an important idea. The idea is that if schools are to become better at providing learning for students, they must also become better at providing teacher leaders chances to develop and grow. It is also suggested that school improvement is achieved where individuals understand visions, and are able to put the visions into practice. A core function of distributed leadership is to create a common vision for improving students learning. Creating a learning organization requires a deep rethinking of the leader's role.

Distributed leadership wide array of leadership action that support creating and promoting mission, vision and goal in the schools environment and promoting a positive learning climate (Hallinger, 2011). School leaders must see themselves as learning leaders responsible for helping schools develop the capacity to carry out their mission. A crucial part of this role is cultivating and maintaining a shared vision which provides focus, generating questions that apply to everyone in the organization. Learning becomes a collaborative, goal-oriented task rather than a generalized desire to 'stay current (Peter, 1990). Mission is what the school aspires and tries to accomplish, or sets of goals which focus on student learning and achievement (Walker and Murphy, 1986). It guides and controls the school's activities that it values. Krug (1992) emphasized the importance of mission for the success of the leader and the school when he stated operating without a clear sense of mission is like beginning a journey without having a destination in mind.

2.3.2. Building effective relationship in schools

In institutional setting like schools everything starts with relationships, whether those relationship are among ideas (Marx, 2006). Teachers, administrators, supervisions, students and parents need to come together to define their aspiration, design procedures for decision making, the mobilization of resources and the evaluation of learning outcomes. The role of instructional leader in team building and developing team cohesion is aimed at defining common goals. Building effective relationship between all schools has been central to school improvement and the attainment of high levels of student achievement (Blase & Blase, 2004).

Distributed leadership creates an environment in which all teachers are instrumental in improving student outcomes, as it allows them to utilize their individual strengths, capacities and between their relationships (Engel & Silva, 2009). Chirichello (2004) proclaims that principals must be able to lead, follow or get out of the way by fading in and out of their roles. They must build a vision in which the school becomes a community of leaders and learners by providing time for teachers to develop their skills and be willing to be teachers and collaborators.

Distributed leadership is frequently talked about as a cure-all for schools and it is the way leadership ought to be carried out (Spillane, 2006). The practice of distributed leadership will ensure the presence of a wide range of school leaders who would lead each department in a school and ensure a certain level of accountability for its success. Leithwood (1992) contends that schools need competent management to establish and maintain the daily routines that make individual people in the organization indispensable.

2.3.3. Redesigning the Organization

Past research has demonstrated that the role of the principal has been shown to be a significant factor in a school's programmatic change and instructional improvement (Camburn, Rowan & Taylor, 2003; Harris, 2005),current research in educational leadership suggests a reconceptualization of school organizational structures, shifting away from traditional, hierarchical models and embracing the practice of distributed leadership (Smylie 2007; Spillane, 2003). This is the structures, situation, or working conditions variable in our equation described earlier for predicting levels of performance.

Organizational culture and structure are two sides of the same coin. Developing and sustaining collaborative cultures depends on putting in place complementary structures, typically something requiring leadership initiative. Practices associated with such initiatives include creating common planning times for teachers and establishing team and group structures for problem solving (Hadfield, 2003). Hallinger and Heck (1998) identify this variable as a key mediator of leaders' effects on students. Restructuring also includes distributing leadership for selected tasks and increasing teacher involvement in decision making (Reeves, 2000). Additional evidence clearly indicates that leaders are able to build more collaborative cultures and suggests practices that accomplish this goal (Leithwood, Jantzi & Dart, 1990; Waters, 2003). For leaders of schools in challenging circumstances, creating more positive collaborative and achievement-oriented cultures is a key task (Jacobson, 2005; West, Ainscow & Stanford, 2005).

2.3.4. Sharing leadership responsibility

In an organization in which leadership is shared, decisions jointly made can only occur within a climate of trust. Smylie, (2007) found that the level of trust in an organization was related to how distributed leadership was perceived and how well it was accepted. The principals in this study worked with their respective faculty to develop a culture of mutual respect and trust, communicating trust in their ability to teach and make decisions in the best interest of children, as well as trust in their ability to take on and solve the questions, issues, and problems faced by the schools. In addition to having teacher participation in decision making, this process empowers teachers to become engaged in the school, take on leadership roles, and foster a sense of commitment toward the issues addressed. Equally important to trust is the importance of relationships, a cornerstone of distributed leadership (Gronn, 2002; Harris, 2005) as well as the middle school philosophy (Jackson & Davis, 2000). Relationships between teachers and with administration may strengthen trust, empower teachers to participate in collaborative processes, and encourage participation in leadership opportunities.

Distributed leadership practices play a huge role in the success of school level improvement strategies as it requires the cooperation and involvement of all members of the school. Yukl (1999) emphasizes that distributed leadership does not require an individual who can perform all the essential leadership functions within an organization, but a set of people who can collectively perform them. Some leadership functions may be shared by several members of the

group. In a school, the school management team may share functions that require more accountability, but other leadership functions may be allocated to individual members of the staff who have the expertise to carry out these functions effectively. There is also a possibility that a particular leadership function may be performed by different people at different times. Yukl (1999) asserts that the leadership actions of any individual leader are much less important than the collective leadership provided by members of the organization. Through collaborative leadership practices, teachers are asked to engage as leaders (Richardson, 2003). The distributed leadership perspective promises to meet the demands of school leaders, identify hidden leaders, contribute to classroom achievement, and positively affect overall school reform (Engel-Silva, 2009). From a distributed leadership perspective, leadership rests on expertise rather than position, which is only possible in a climate of trust and mutual support (Bennett, Wise, Woods & Harvey, 2003).

Bennett (2003) describes the nature of distributed leadership in three points that follow. Firstly, distributed leadership defines leadership as an emergent property of a group or network of interacting individuals. It allows people to work together to pool their initiative and expertise, resulting in an outcome that is greater than the sum of individual actions. Secondly, distributed leadership suggests an openness of the boundaries of leadership. The conventional net of leaders is widened and other individuals are seen as contributing to leadership. In the school situation, this openness is not limited to the school management team but includes the grade heads, teachers, administrative staff, general assistants, extra-curricular coordinators and coordinators of other school committees. The roles of all members of the school community need to be considered. Thirdly, distributed leadership acknowledges that a variety of expertise is distributed across many people within an organization and is not confined to the few at the top.

2.4. Distributed leadership and student academic achievement

Student academic achievement in the school in terms of the results obtained on the national examinations by the students were affected by patterns of distributed leadership in schools. Engaging many people in leadership activities are the foundation of distributed leadership (Harris, 2004) and where positive effects of distributed leadership clearly have been demonstrated. Research by Silns and Mulford (2002) has shown that student academic achievement are more likely to improve when leadership sources are distributed throughout the school community and

when teachers are empowered in areas of expertise. From a distributed leadership perspective, effective principals do not just string together a series of individual actions, but systematically distribute leadership by building it into the fabric of school life (Spillane, 2006). Leadership is distributed not by delegating it or giving it away, but by weaving together people, materials, and organizational structures in a common cause. Research supports the notion that improving school leadership at the building level holds tremendous potential in helping schools bolster student academic performance, particularly for low-income students. The study of effective urban schools (Mendez-Morse, 1992) have found that a key factor in the success of these schools is the presence of a skilled principal who creates a sense of shared mission around improving teaching and learning and delegate's authority to educators who have the trust and support they need to get the job done.

Distributed leadership theory advocates the need for schools to adopt a more democratic and collective form of leadership that reflects the view that every person in one way or another can demonstrate leadership (Goleman, 2002). The conceptual framework guiding the research on school leadership focuses more on network patterns of control, where leadership activities are widely distributed across multiple roles (Smylie & Denny, 1990).

2.5. Tenets of distributed leadership

The first tenet of distributed leadership is that it is additive. The additive nature of distributed leadership describes the appointment of leadership tasks to different individuals and to everyone having their turn as a leader. There is no assumption of hierarchy within the leadership behaviors and no one individual plays a more important role than another (Bennett, 2003; Gronn, 2002); all activities are equal. Although the leadership activities may be carried out separately they come together to achieve a common goal; everyone does their part and fills in their piece of the puzzle. This tenet forms the loose theoretical basis of many practitioner approaches to distributed leadership that encourage leadership for all.

The tenet of person plus refers to the consciously managed and synergistic relationships among some, many, or all sources of leadership in the organization (Leithwood, 2007). Distributed leadership equates to a greater outcome than the sum of the parts (Gronn, 2002; Harris, 2013; Harris & Spillane, 2008; Spillane,2001; Spillane, Halverson, & Diamond, 2004) and can manifest itself through collaboration (groupings), intuitive working relations (co-leaders who work closely

together and depend on each other), or institutionalized practice (formal leadership team structure in an organization). In each of these formats, leadership activity is spread over multiple leaders (Spillane, 2001, 2004; Spillane, 2005). This distributed activity, or leadership practice, is achieved through the interaction or synergy between leaders, followers, and the situation (Spillane, 2007).

2.6. Components of distributed leadership

In distributed leadership the unit of analysis is leadership practice. This practice is the interaction between leaders, followers, and situation and is demonstrated through task enactment. Practice cannot exist without all of these elements. Leadership is not an action in and of itself that is influenced by leaders, followers, and situation; it is a function of these things that does not occur in their absence. Leadership practice is not based on individual traits, skills, or perspectives; it is a product of the context of distributed leadership (Spillane, 2007).

Leaders: In distributed leadership the leaders are the individuals who exert influence over leadership practice. This influence can be distributed in three ways, collaborated distribution, collective distribution, and coordinated distribution (Spillane, 2004; Spillane & Diamond 2007). When leadership is collaborated, two or more leaders work together in the same space on the same thing. Collective distribution describes the interdependency of two or more leaders working separately, for example, assistant principals and principals working together through separate formative evaluations to collectively produce teachers' summative evaluations. Coordinated distribution outlines a sequence of leadership routines that require the completion of one task to proceed with the next. This was illustrated as school staff using assessment data to inform instruction. Tests must be distributed, proctored, and scored prior to disaggregation of data. After that it must be organized, analyzed, and processed before goals are set. In order to set and pursue goals, the previous steps must be accomplished. This is achieved through a process of coordinated distribution (Spillane, 2004; Spillane & Diamond, 2007).

Followers: Leaders cannot exist without followers. Leadership is influence and followers have to allow themselves to be influenced. Spillane and Diamond (2007) caution those who define followership in passive terms because of the multidirectional nature of the relationship.

In a distributed framework the roles may change and at times the leader becomes the follower and the follower becomes the leader (Spillane, 2004). Influence flow both ways and often times the legitimacy of a leader is based on the impression of the followers. Followers are a defining element of leadership practice; in interaction with leaders and aspects of the situation, followers contribute to defining leadership practice (Spillane & Diamond, 2007).

Situation: The concept of situation brings context to the forefront of distributed leadership. Just like instructional leadership, distributed leadership is a product of the circumstances of the school. Situation is influential in the actions of leaders and their effect on followers (Spillane & Diamond, 2007). The size, type, purpose, and environment of the school do not only affect leadership, they constitute it. Thus, distributed leadership cannot be separated from situation. Situation is made up of structure, tools, and routines. Structure is the rules and resources that provide the medium and outcome of social action within a system (Spillane, 2004). It encompasses the formal organization of the school (i.e. large scale organizational tasks or macro functions) and forms a basis for tools and routines. Tools and routines are artifacts of leadership practice. Tools are tangible representations of leadership practice like memos, agendas, data analysis programs, policies, and evaluation protocols. Routines are abstract artifacts that represent the repetitive actions of leadership including vocabulary, strategies, and daily schedules (micro tasks) that are stretched across organizations (Spillane, 2001; Spillane, 2005). Tools and routines can either facilitate or extinguish leadership and a focus on their enactment can provide insight on the distributed practice in an organization.

2.7. Patterns of Distributed Leadership

To understand distributed leadership more clearly, it is important to note that there are different patterns of distributed leadership. Studying the different patterns of distributed leadership and their effects on student outcomes may bring us closer to understanding what forms or patterns of distributed leadership in practice are more likely to improve student achievement as opposed to simply describing distributed leadership as it presently exists in schools. Distributed leadership exists in every school in some manner, though the patterns of this distributed leadership may vary widely.

Gronn (2002) suggested three concretive forms of distributed leadership, such as:

1. Spontaneous collaboration: where groups of individuals with differing skills, knowledge and/or capabilities come together to complete a particular task (project) and then disband.
2. Intuitive working relations: where two or more individuals develop close working relations over time until 'leadership is manifest in the shared role space encompassed by their relationship.
3. Institutionalized practice: where enduring organizational structures (committees and teams) are put in place to facilitate collaboration between individual

Leithwood et al. (2006) identifies four forms of distributed leadership. These are:

1. Plan full alignment: where, following consultation, resources and responsibilities are deliberately distributed to those individuals and/or groups' best placed to lead a particular function or task.
2. Spontaneous alignment: where leadership tasks and functions are distributed in an unplanned way yet, tacit and intuitive decisions about who should perform which leadership functions result in a fortuitous alignment of functions across leadership sources.
3. Spontaneous misalignment: where, as above, leadership is distributed in an unplanned manner, yet in this case the outcome is less fortuitous and there is a misalignment of leadership activities.
4. Anarchic misalignment: where leaders pursue their own goals independently of one another and there is active rejection, on the part of some or many organizational leaders, of influence from others about what they should be doing in their own sphere of influence.

Mac Beath (2005) identifies six forms of distributed leadership, such as:

1. Formal distribution: where leadership is intentionally delegated or devolved.
2. Pragmatic distribution is characterized as a reaction to external events such as demands from government or the local authority or parental issues (where leadership roles and responsibilities are negotiated and divided between different actors).
3. Strategic distribution focused on a longer-term goal of school improvement.
4. Incremental distribution refers to a professional development in which people prove their ability to exercise more leadership they are given.
5. Opportunistic distribution means leadership doesn't need to be distributed because it is dispersed.

6. Cultural distribution develops when leadership is intuitive and embedded in the culture.

Spillane (2006) identifies three forms of distributed leadership. These are:

1. Collaborated distribution: where two or more individuals work together in time and place to execute the same leadership routine.
2. Collective distribution: where two or more individuals work separately but interdependently to enact a leadership routine.
3. Coordinated distribution: where two or more individuals work in sequence in order to complete a leadership routine.

2.8. Theoretical framework

Theoretical framework for this study is based on (Mac Beath, 2005; Spillane, 2006) patterns of distributed leadership practices like: formal, pragmatic, Collective, strategic, Collaborated, incremental, opportunistic, Coordinated and cultural. This framework identifies Patterns of distributed leadership practices that have potentially direct impact on students' academic achievement.

2.9. Conceptual framework

The conceptual framework of the study is based on the interactions of the independent variables (Patterns of distributed leadership like formal (planned), pragmatic, coordinated and collaborative) and the dependent variable (students' academic achievement).

Independent Variables ——— **Dependent Variable**

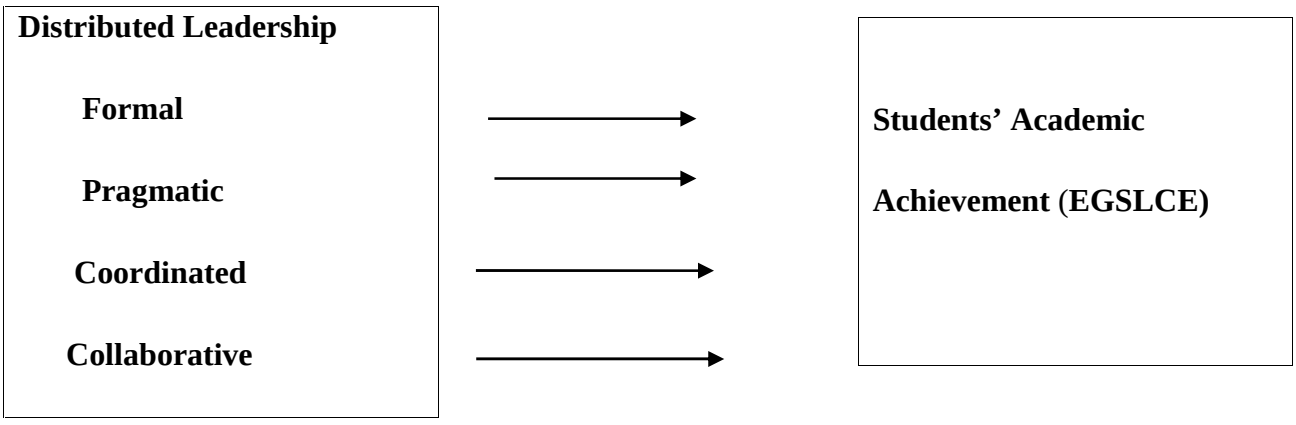

Figure 1. Adapted from Mac Beath (2005) and Spillane's (2006)

2.9.1. Formal distribution

Formal distributed leadership where through delegation and empowerment, formal overall leaders seek to develop others into organizational roles of leadership or push work down the line (Gunter, 2005) as a means of addressing intensification of work. This is also referred to as delegated leadership. This type of leadership is evident when there are teams, informal work groups, committees and so on, in a hierarchical structure. Work is accepted as a means of empowerment. Gunter (2005) category of formal distributed leadership operates within a hierarchical organization system where the head distributes work to others which is a form of delegated leadership. Moyo (2010) found that distributed leadership occurred largely through formal authority and control of resources whereby head teachers exert their influence and power through the devolution of responsibilities through formal structures. This type of formal distributed leadership is regarded as legitimate as it is delegated by a person in a position of authority and it affords some status to the person who takes on the tasks. In this type of leadership, hierarchical organizational structures are in place and the position of power firmly lies with the person delegating, who in most cases are the school principals who have positional authority. Woods (2004) describes this type of leadership as delegated leadership and indicates that this is evident where there are teams, informal work groups, committees, and so on, operating, within a hierarchical organization.

2.9.2. Pragmatic distribution

Pragmatic distribution is characterized as a reaction to external events such as demands from government or the local authority or parental issues or where leadership roles and responsibilities are negotiated and divided between different actors (MacBeath, 2004). Pragmatic distributed leadership as an ad hoc response to the complexity of external forces and strategic distributed leadership as the type of distributed leadership focusing on achieving various goals (Macbeath, 2008). Distributed leadership perspective, effective principals do not just string together a series of individual actions, but systematically distribute leadership by building it into the fabric of school life (Spillane, 2006). Leadership is distributed not by delegating it or giving it away, but by weaving together people, materials, and organizational structures in a common cause.

2.9.3. Collaborative distribution

Collaborated distribution is characterized by two or more leaders working together in the same place and time to accomplish the same leadership routine. This approach involves a reciprocal interdependency, in which the actions of different leaders involve input from one another in co-performing a leadership routine. Reciprocal interdependencies involve individuals playing off one another (Spillane, 2006). An important effect of collaborative distribution is the potential for leaders to limit or facilitate, through the actions, motivation, capacity, and agency of those co-performing with them. The converse is equally valid due to the reciprocal interdependency nature of this type of distribution. Spillane (2006) noted that collaborated distribution more commonly is found in routine activities, such as staff development, grade-level meetings, and curriculum committee meetings, than in evaluative types of leadership tasks. This type of distribution facilitates co-practice stretched over interacting leaders.

2.9.4. Coordinated distribution

Coordinated distribution describes leadership practices formed by tasks that are to be completed sequentially in order for the leadership routine to be performed. The leaders can co-perform independently or together. Interdependence is maintained, because completion of an activity by a leader or group of leaders is a prerequisite for initiating the task that follows. Thus, the school leadership process is embedded in coordinated distributed practices, as dictated by the interactions of leaders, followers, and their situation (Spillane, 2006).

Permeating distributed practices of leadership is the concept of heedfulness, defined by Spillane (2006) as the way in which a set of behaviors is performed: groups act heedfully when they act carefully, intelligently, purposefully, and attentively. Leaders do not have to agree, but they must be both attentive and alert to other leaders' actions (Spillane, 2006; Spillane, 2001). Leadership in educational contexts is abundant with structures and activities that are marked by isolation, independence, inattentiveness by other leaders, and lack of consensus (Hartley, 2007). Distributed leadership offers a conceptual lens to better understand, unify, and coordinate leadership within the school context. The performance of leadership activities can be maximized and become more effective as they are stretched across organizational leaders and become more permeable, its components and principles are better understood, and it becomes anchored in solid and abundant literature.

Summary of the Chapter

Distributed leadership can be a powerful means of bringing about school change if carefully considered and applied. Teacher leadership is an important component of leadership in schools and through distributed leadership, the expertise, time and experience of all members of staff can be used optimally to ensure school improvement. Teachers should be nurtured and their expertise must be tapped into as the work of the principal becomes impossible to manage alone .The constant development of teachers for their new roles ensure a steady supply of leaders for the future. It must be borne in mind that distributed leadership is not a panacea for school improvement, as much depends on the school's developmental stage, and context in which the school finds itself (Harris, 2005). Distributed leadership allows for a reflection on leadership practices in new and challenging ways. It is bound to bring tensions and anxieties as boundaries are crossed and barriers are broken, in a quest for the best way to lead schools in the 21st century and beyond. However, if sustainable school improvement is what we are looking for, then, surely this is a risk worth taking.

Over all, this chapter was a presentation of the review of the literature relating to distributed leadership and students' academic achievement. In this review, the researcher traced the concept of distributed leadership, dimensions of distributed leadership practice, distributed leadership and student academic achievement, components of distributed leadership, and patterns of distributed leadership were presented. From the dimensions of distributed leadership practice, setting and defining the schools vision, mission and goals, building effective relationship, redesigning the organization and sharing leadership responsibility was examined. Although there are many ways of examining distributed leadership, for the purposes of this study the focus was patterns of distributed leadership such as: formal, pragmatic, collaborative and coordinated distributed leadership. Finally, theoretical and conceptual framework of this study was presented.

CHAPTER THREE

THE RESEARCH DESIGN AND METHODOLOGY

This chapter describes the overall study area, research design, methodology, sources of data, population, sample size and sampling techniques, instruments of data collection, validity and reliability of the instruments, data collection procedures, method of data analysis and ethical consideration.

3.1. The study area

The entire Jimma Zone in Oromia regional State was considered as the study population. Jimma Zone has 21 administrative Woredas and consists of people with diversified cultures, life styles and economic conditions. It is 340 Km far from Finfine and located in the western part of Oromia regional state direction. Moreover, the majority of the farmers practice coffee production, crop and livestock production. Although the Zone has some constraints including moisture stress, tests fly, malaria and the major potentials include rain fed farming and forestation. This study was conducted in secondary school of Jimma Zone. The total number of secondary schools in Jimma Zone is 88. All of them are government secondary schools. This study was conducted in 16 secondary schools of Jimma Zone.

3.2. The Research Design

In this study, correlational research design was employed to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. In supporting this idea, Creswell (2012) states Correlational research designs were used to measure the relationship between two or more continuous variables. In other definition, according to Acock (2009), correlation design is research intent to know the correlation between independent and dependent variables. So, correlation design is quantitative approach in which researcher measure the degree of relation between two or more variables using the statistical procedure of correlation analysis. This degree of association, expressed as a number, indicates whether the two variables are related or whether one can predict another. Correlational designs provide an opportunity for researcher to predict and explain the relationship among variables. In correlational research designs, researcher uses the correlation statistical test to describe and measure the degree of association (or relationship) between independent and dependent variables.

3.3. The Research Method

The purpose of this study was to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. Quantitative research approach was employed in order to achieve this purpose. Quantitative approach is considered as appropriate to collect data from a wide area by selecting a representative sample of a large population. Researcher uses the quantitative approach to describe a research problem through a description of trends or a need for an explanation of the relationship among variables. Quantitative research problems required to explain how one or more variables affect another variable. By explaining a relation among variables, it is interested in determining whether one or more variables might influence another variable (Creswell, 2012).

3.4. Sources of Data

In this study, primary data sources were employed to obtain reliable information about distributed leadership practices and students' academic achievement. Primary sources of data included the key informants for information such as principals and vice principals, department heads, school supervisors, unit leaders and teachers who have direct and indirect involvement in leadership roles at least at the classroom level.

3.5. Population, Sample Size and Sampling Techniques

3.5.1. Population

Creswell (2008) states Population is the whole of research subject. In other word, population is a group of individuals or items that share one or more characteristics from which data can be gathered and analyzed. The entire Jimma Zone in Oromia regional state was considered as the study population. This area was decided to be taken as a setting for this study for two reasons. Firstly, since the researcher has worked in different schools located at different Woredas of the Zones, it is thought that this may better help him in the process of data collection. Secondly, since the Zones consisted of people with diversified cultures, life styles and economic conditions, there is high probability that the findings could be at a certain level representative of the situation in other Zone too.

3.5.2. Sample Size and Sampling Techniques

Arirasian (2003) states that the concept of sample involves taking a portion of the population, making observation on this smaller group, and then generalizing the finding to the large population from which the sample was drawn. The sample respondents and schools are determined based on the 2009/2010 E. C. annual report of Jimma Zone Education Office. According to this report, there are 88 government's first cycle secondary schools in 21 Woredas of the Zone. In these secondary schools, a sum of 3520 teachers, 21 supervisors, 88 principals, 104 vice principals, 440 department heads, 176 unit leaders are working. According to Creswell (2012), sampling technique is the technique to taken sample. Regarding the Woredas samples, since the number of schools is very large, among 21 Woredas the target populations were selected from 8 Woredas by simple random sampling method, particularly through lottery method which is 38.09% of the total population. This was because in simple random sampling, every woreda has an equal chance of being selected as sample and it is also appropriate to quantitative research approach (Creswell, 2007; Keppel, 1991). The randomly selected Woredas were Manchew, Mana, Gumai, Goma, Agaro, Kersa, Seka Chokersa and Setema. In support to this, Gay and Arirasian (2003) state that the sample of 10% to 20% of the target population is often used in quantitative research for large population. Regarding the school samples, 16 (18.18%) of secondary schools were selected by using simple random sampling technique. Then from sixteen (16) secondary schools, 96 (50%) of department heads (six from each school), 208 (32.5%) of teachers (thirteen from each school), 16 (66.6%) of vice-principals and 24 (75%) of unit leaders were selected as respondents using simple random sampling technique, particularly through lottery method with the assumption that all participants have equal chance of being selected and to obtain representative sample. Simple random sampling gives each unit of the population equal opportunity of being selected (Seyoum and Ayalew, 1989). On the other hand, 16 (100%) school principals and 8 (100%) supervisors were taken as respondents using purposive sampling technique of the study. Therefore, the total number of research participants were 368, i.e. 16 (100%) school principals, 16 (66.6%) vice principals, 24 (75%) unit leaders, 96 (50%) department heads, 8 (100%) supervisors and 208 (32.5%) of teachers from the selected secondary schools of Jimma Zone.

Table 1: Sample size and sampling techniques

Types of respondents	Target population	Sample	% of the sample	Sampling techniques
Teachers	640	208	32.5%	Simple random sampling
Department heads	192	96	50%	Simple random sampling
Principals	16	16	100%	Purposive sampling
Vice principals	24	16	66.6%	Simple random sampling
Supervisors	8	8	100%	Purposive sampling
Unit leaders	32	24	75%	Simple random sampling
Total	912	368	40.35%	

3.6. Instrument of data collection

Questionnaire

For the purpose of this study, data collection instrument was Likert type of questionnaire in the samples selected schools. Consistent with the notion that the methods and instruments chosen depend largely on the extent to which they could serve the purpose of the study, and address the research questions posed (Kumar, 2005), questionnaire proved to be appropriate instrument for data collection in this study. In an attempt to collect data, Likert type of questionnaire was prepared by the researcher and used as a main source of data gathering instrument. Questionnaire is less expensive, offer greater anonymity of respondents, and appropriate for collecting factual information (Kumar, 2005). These justifications made questionnaire more appropriate for this study. Close-ended questionnaire was prepared to collect information from two groups of respondents namely teachers and school leaders (department heads, unit leaders, supervisors, vice principals and principals). The items were prepared in accordance with the designed objectives and research questions to be answered in the study concerning relationship between distributed leadership and students' academic achievement.

3.7 .Validity and Reliability of the Instrument

3.7.1. Pilot study

Since the questionnaire is designed specifically for the purpose of this study, it is imperative to pilot test it in terms of clarity of questions and statements, choice of words, missing items, effectiveness of instructions, completeness of response items, and length and amount of time it would take to complete. The purpose of the pilot analysis was to test the data-collection instrument for face validity, and in particular, to check that the questions elicited appropriate responses (Cohen, Manion & Morrison, 2007).

A pilot study of the questionnaire was carried out in Yachi secondary school using purposive sampling of 8 school leaders (one principal, one vice principal, one unit leader and five department heads) and 12 teachers who were not included in the sample of the study. The participants in the pilot study were chosen because they had a similar background and knowledge to the target population about the issues being investigated.

The pilot-test was conducted to test the validity and reliability of the content. It enabled the researcher to gather relevant information, about the respondents understand what the questionnaire wants to address and to check the items in the instruments and to identify and eliminate problems in collecting data from the sample of the study. The pilot test provides an advance opportunity for the researcher to check the questionnaires and to minimize errors due to improper design of instruments, such as problems of wording or sequence (Adams et al., 2007). Verbal consent to participate in the pilot study was obtained from the respondents. Respondents were oriented about the objectives of the pilot-study, how to fill out the items, evaluate and give feedback regarding the relevant items. They were also given the opportunity to make comments (in writing) regarding the content of the questionnaire. To this end, 34 questionnaires were distributed for school leaders and teachers selected for the pilot- test. All questionnaires were completed and returned. After the dispatched questionnaire was returned, necessary modifications on 4 items, 2 complete removal and replaced by new and replacement of 3 unclear questions were made.

3.7.2. Validity of the Instrument

Validity is the extent to which any measuring instrument measures what it is intended to measure or the suitability or meaningfulness of the measurement (Thatcher, 2010). Murphy and David shover (1998) states that there are two meanings of validity meant to ascertain whether the measuring instrument really measure what needs to be measured and to determine the correct instrument in producing an accurate result. To ensure validity of instrument, the instrument was developed under close guidance of the advisor and the pilot study was conducted in Yachi secondary school which was not included in the sample of the study. The researcher tested the validity of the instrument by the approvals of the advisor who gave their opinions, comments, and suggestions about the questionnaire, its relevance to the purpose of the study, proper language, and clarity of the items. The researcher made some changes to the questionnaire such as modifying the wording of some items, inappropriate subscale and clarity of the questions when there was an agreement on changes. Additionally, the pilot-test was conducted to test the validity of the instrument. During the pilot study, the questionnaire were examined and tested for appropriateness, content, wording, and order. The outcomes of the pilot study indicated the need for some changes to the questionnaire such as modifying the wording on some items, replacement of unclear and rejected questions.

3.7.3. Reliability of the Instrument

Reliability refers to the degree of consistency of a certain instrument when used repeatedly on the same subject. Cronbach (1984) stated that the alpha Cronbach method is a widely used statistical tool to study the reliability of a certain research questionnaire. The alpha value indicates degree of internal consistency. It is a function of the number of items in the scale and the degree of their inter correlations. Internal consistency is assessed using item-to-total correlation. Cronbach's α is the most commonly used test to determine the internal consistency of an instrument. Instruments with questions that have more than two responses can be used in this test (Shuttle, 2015). The Cronbach's α result is a number between 0 and 1. An acceptable reliability score is one that is 0.7 and higher (George & Mallery, 2003; Shuttle, 2015). After the pilot questionnaire were filled and returned the reliability of the items were measured by using Crobanch's alpha method by the help of SPSS version 20. The obtained test result was 0.825. Then, as the result indicated it was a good indicator of the internal consistency of the items.

Table 2: Reliability test results with Cronbach's alpha

No	Variables	**No. of items**	**Cronbach Alpha**
1	Dimensions of distributed leadership practice	18	0.705
2	Formal Distributed leadership	4	0.841
3	Pragmatic Distributed leadership	4	0.838
4	Collaborative Distributed leadership	4	0.759
5	Coordinated Distributed leadership	4	0.886
6	Over all Patterns of Distributed Leadership	16	0.946
Average Reliability result		**34**	**0.825**

Cronbach's alpha coefficient normally ranges between 0 and 1. George and Mallery (2003) provide the following rules of thumb: $\geq$ 0.9 – Excellent, $\geq$0.8 – Good, $\geq$ 0.7 – Acceptable, $\geq$ 0.6 – Questionable, $\geq$ 0.5 – Poor and $\leq$ 0.5 – Unacceptable". It is noted that an alpha of (0.825) is good to use the question for the research.

3.8. Data Collection Procedures

After the necessary corrections were made from the pilot test, the final questionnaire was duplicated and distributed with necessary orientation by the researcher to be filled out by participants. Participants were given ample time to complete the questionnaire and returned them to the researcher himself. Data from completed surveys were entered in to SPSS version 20.

3.9. Methods of Data Analysis

The data collected from the questionnaire was analyzed and interpreted quantitatively. Depending on the nature of the variables quantitative data analysis method was employed. To begin the analysis, first respondents were categorized under different groups in terms of the practices that they have in leadership activity. Then, different characteristics of respondents in relation to their age, sex, education level, qualification, work experience and the position they hold currently was analyzed by using frequency and percentage. Secondly, the quantitative data obtained through a five point Likert scales ranging from strongly agree to strongly disagree in questionnaire was organized and tabulated around the sub-topics related to the research questions. Descriptive statistics like mean, standard deviation, weighed mean was calculated for those items prepared in

Likert type of scale. For more advanced statistical operations, data were inserted into statistical software programme, SPSS version 20 and further analysis was done.

To determine distributed leadership practice in secondary schools, the data collected through a five point Likert Scale ranging from strongly agree to strongly disagree in questionnaire was analyzed and interpretation was made based on mean, weighed mean, standard deviation and Independent sample t- test. Independent sample t- test was used to make sure whether there is a significant difference between means of the two groups of respondents (school leaders: principals, vice-principals, supervisors, department heads and unit leaders and teachers) in terms of a given items of distributed leadership practice.

To examine the relationship between patterns of distributed leadership and students' academic achievement and to determine the relationship between distributed leadership practice and students' academic achievement , the data collected through a five point Likert scale ranging from strongly agree to strongly disagree in questionnaire was analyzed and interpretation was made based on Pearson's correlation coefficient. Pearson's correlation coefficient is a statistical measure of the strength of a linear relationship between two variables. Certain assumptions must be tested and met in order for the results of a Pearson correlation coefficient to be useful. It assumes that bivariate normal distributed, the scales of measurement are interval or ratio level and that the relation between the independent and dependent variable is linear. The scattered plots rough has rectangular shaped, most scores are concentrated around center it can be concluded that linear. Observations of the visual representations of the scattered plots revealed that the assumptions of normality and linearity were met.

Multiple regression analysis was used to find out the independent impacts of each patterns of distributed leadership. Multiple regression analysis was given a more detailed analysis as it enabled the examination of the influence of each patterns of distributed leadership on students' academic achievement. It also allowed the researcher to determine the combined impact of the variables (Gay, Mills & Airasian, 2006). Certain assumptions must be tested and met in order for the results of multiple regression analysis to be useful. It assumes that variables have normal distributions and that the relation between the independent and dependent variable is linear when all other independent variables are held constant (Tabachnick & Fidell, 2009). Observations

of the visual representations of the histogram, scattered plot and partial regression plots revealed that the assumptions of normality and linearity were met.

A common problem that arises in multiple regression analysis is that of multi col linearity. It was the results from two independent variables that are highly correlated with each other (Pallant, 2005). When multi col linearity is present the regression coefficient might become insignificant and it is also difficult to identify the unique relation between each predictor variable and dependent variable (Tabachnick & Fidell, 2009). The measure multi col linearity is the squared multiple correlation of a variable. The squared measure of multiple correlations serves as dependent variable, with the other variables as independent variables. A high squared multiple correlation means a high correlation between the independent variables and therefore results in multi col linearity.

Table 3: Col linearity Statistics

Patterns of distributed leadership	Tolerance	Variance inflation factor
Formal distributed leadership	0.66	1.51
Pragmatic distributed leadership	0.20	5.0
Collaborative distributed leadership	0.74	1.35
Coordinated distributed leadership	0.13	7.69

The squared multiple correlation (SMC) is computed to a tolerance for multi col linearity (1-SMC) (Tabachnick & Fidell, 2009). The variance inflation factor (VIF) is the inverse of the tolerance value. If either the tolerance value falls below 0.10 or the variance inflation factor (VIF) exceeds 10, there can be a concern of multi col linearity (Pallant, 2005). As shown in table 3 , that there is no multi col linearity present in this data analysis.

3.10. Ethical Consideration

Ethical consideration plays a role in all research studies and all researchers must be aware of and attend to the ethical considerations related to their studies (Creswell, 2012). Before the study was carried out, the researcher obtained approval from Jimma University Department of Educational Planning and Management. Approval was granted from Zonal education offices before contacting the schools. Permission was sought from principals before any contact was made with

the teachers. Consent was secured from each teacher before they filled out the surveys questionnaire and the researcher also explained how anonymity would be maintained throughout the study. Respondents were reminded not to write their name on the questionnaire and informed of the purpose, methods and time frame of the study. Likewise, the results were reported collectively so there was anonymity for participants involved.

Summary of the Chapter

Overall, this chapter was a presentation of the research the study area, design and methodology used to study relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. It included sources of data, population, sample size and sampling techniques, instruments of data collection, validity and reliability of the instruments, data collection procedures. The chapter also outlined over all method of data analysis used in this study. To this end, ethical consideration related to this study was presented.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter deals with presentation, analysis and interpretation of data obtained from teachers, department heads, Unit leaders, principals, vice principals and supervisors. The study employed questionnaires for teachers, department heads, unit leaders, principals, vice principals and supervisors. In this part of the study, different phases and steps were followed in the analysis and interpretation of the data that collected through questionnaire for this study. The questionnaire was classified in to two major categories. The first category dealt with personal information of the respondents, while the second category has analyzed specific issues of the study. The data was collected from a total of 368 respondents. A total of 368 copies of questionnaire were distributed to 208 teachers and 160 school leaders (16 school principals, 16 vice principal, 24 unit leaders, 96 department heads and 8 supervisors). The entire questionnaire (100%) that was distributed to the teachers and school leaders were filled and returned to the researcher. The data collected through a five point Likert scales ranging from strongly agree to strongly disagree in questionnaire was analyzed and interpretation based on the mean and weighted mean values 1-1.80 as very low, 1.81-2.60 as low , 2.61-3.40 as moderate ,3.41-4.20 as high and 4.21-5.00 as very high.

4.1. Analysis and Interpretation on the characteristics of respondents

The two groups of respondents were asked to indicate their personal information. The result was summarized in the following table 4.

Table 4: Analysis and Interpretation on the characteristics of respondents

No	Items	Category of items	Respondents			
			Teachers		School Leaders	
			No	%	No	%
1	Sex	Male	162	77.88	127	79.37
		Female	46	22.11	33	20.62
		Total	208	99.99	160	99.99
2	Age	21-25 years	54	25.96	19	11.87
		26-30 years	89	42.78	122	76.25
		31-35 years	26	12.50	17	10.62
		36-40 years	23	11.05	2	1.25
		41-45 years	9	4.32	-	-
		46-50 years	7	3.36	-	-
		Above 50years	-	-	-	-
		Total	208	99.97	160	99.99
3	Level of educational attainment	Certificate	-	-	-	-
		Diploma	31	14.90	24	15
		BA/BSC/BED	164	78.84	136	85
		MA/MSC	13	6.25	-	-
		Total	208	99.99	160	100
4	Work experiences	5 and below years	47	22.59	21	13.12
		6-10 years	50	24.03	42	26.25
		11-15 years	84	40.38	94	58.75
		16-20 years	15	7.21	2	1.25
		21-25 years	8	3.84	-	-
		26 and above	4	1.92	1	0.62
		Total	208	99.97	160	99.43
5	Training attended	Did not take at all	195	93.75	117	73.12
		Less than 1 week	-	-	-	-
		1-2 weeks	-	-	-	-
		3-4 weeks	-	-	-	-
		1-3 months	-	-	-	-
		More than 3 months	13	6.25	43	26.87
		Total	208	100	160	99.99

As shown in table 4 above, the data of the study revealed that, 162 (77.88%) of teacher respondents and 127(79.37%) of school leader member respondents were males while the remaining 46 (22.11%) of teacher respondents and 33 (20.62%) school leader respondents were females respectively. This implies that, the participation of females either in the secondary school teaching or involvement in the leadership is less than males.

Regarding their age, 54 (25.96%) of teacher respondents and 19 (11.87%) of school leader respondents were between 21-25 years. 89 (42.78%) of teacher respondents and 122(76.25%) school leader respondents fall between the ages of 26-30 years. 26 (12.50%) of teacher respondents of and 17 (10.62%) of school leader respondents were between the ages of 31-35 years. 23 (11.05%) of teacher respondents of and 2(1.25%) of school leader respondents were between the ages of 36-40 years. On the other hand, 9 (4.32%) of teacher respondents were between the ages of 41-45 years and 7 (3.36%) of teacher respondents were between 41-51 years. This implies that teachers of different age groups were participated as sample respondents.

As far as level of educational attainment was concerned, 31 (14.90%) of teacher respondents and 24 (15%) of school leader respondents were diploma which is below the standard set for secondary schools. A 164 (78.84%) of teacher respondents and 136 (85%) of school leader respondents were BA/BSC/BED degree while, the remaining 13 (6.25%) of teacher respondents were MA degree. This implies teachers and school leader those who had the required educational level had provided their responses for this study and the collected responses were sound.

With respect to the work experiences of respondents, 47 (22.59%) of teacher respondents and 21(13.12%) of school leaders had teaching experience of 5 years and below. 50(24.03%) of teachers and 42 (26.25%) of school leader respondents had 6-10 years' experience. On the other hand, 84 (40.38%) of teacher respondents and 94 (58.75%) of school leader had a work experience of 11 to 15 years. 15 (7.21%) of teacher respondents and 2(1.25%) of school leader respondents had 16-20 years of work experience. Only 8 (3.84%) of teacher respondents had 21-25 years of work experience. The smallest portions of both groups of the study samples, 4 (1.92 %) of teacher respondents and 1 (0.62%) of school leaders respondents have work experiences of 26-years and above in their teaching profession. This implies that teachers and school leaders those who had different teaching experiences were participated as the respondents.

Regarding training attended to school leadership, 195 (93.75%) of teacher respondents and 117 (73.12%) of school leader respondents did not take at all any training which is relevant to school leadership while the remaining 13 (6.25 %) of teacher respondents and 43 (26.87%) school leaders respondents were taken school leadership training. This implies that teachers and school leaders those who did not take school leadership training was participated as the respondents.

4.2. Analysis and Interpretation on the dimensions of distributed leadership practice

As the review of the related literature discussed in the previous chapter revealed that the distributed leadership practices were mainly determined by the extent to which dimensions of distributed leadership practice are implemented in the schools. Thus, dimensions of distributed leadership were including setting and defining the schools vision, mission and goals, building effective relationship in the schools, redesigning the organization and sharing of leadership responsibility in secondary schools.

The variables that measured the dimensions of distributed leadership practice were rated five point Likert Scale with one being the lowest score and five being the highest. Then mean scores were compared with 2.50-3.49 (which is moderate) to indicate the level of dimensions of distributed leadership practice as perceived by school leaders and teachers. If the mean score on the dimensions of distributed leadership practice was equal to or higher than 2.50-3.49 (moderate), the researcher assumed that dimensions of distributed leadership were practiced and vice versa. The mean scores for EGSLCE on the schools were obtained by averaging 10 subjects the students took on the grade 10 national examination. The mean was first computed for an individual student on all subjects in the sample schools then calculated for each school and across all in the sample schools. The score of 50 percent and above is considered as a pass mark in examination (MoE, 1987). On the other hand, in this study 2(50%) out of 4(100%) EGSLCE score is considered as a pass mark (mean or average score). The mean for each of the four dimensions of distributed leadership practice was calculated by averaging the scores for the entire questionnaire within each dimension for the 368 (208 teachers and 160 school leaders) in the participating secondary schools.

Table 5: Descriptive statistics for the dimensions of distributed leadership and EGSLCE

	N	Minimum	Maximum	Mean	Std. Deviation
Setting and defining the school vision, mission	368	1.00	5.00	3.54	0.78
Building effective relationship	368	1.00	5.00	3.03	0.89
Redesigning the organization	368	1.00	5.00	2.49	0.97
Sharing leadership responsibility	368	1.00	5.00	2.98	1.14
Over all dimensions	368	1.00	5.00	3.01	0.96
Students' academic achievement (EGELCE)	4352	.00	4.00	1.76	0.502

From table 5, the mean for each of the four variables of dimensions of distributed leadership practice, setting and defining the school vision, mission and goal was found to be high (M=3.54, SD=0.78) followed by building effective relationship(M=3.03, SD=0.89) and sharing leadership responsibility (M=2.98, SD=1.14). The score for redesigning the organization dimension was low practiced as indicated in the average means is below (M=2.49, SD=0.97). The average EGSLCE examination scores for all schools was below the mean (M=1.76, SD=0.49).

Table 6: Distributed leadership practice in setting and defining the school vision, mission and goal

No	**The school leaders …**	Respondents	N	Mean	SD	WM	T value	Sig (2 tailed)
1	develop the school mission, goals and objectives for the improvement of students' academic achievement	Teachers	208	3.43	0.98	3.33	1.88	0.06
		School leaders	160	3.22	1.12			
2	capability in setting directions and encouraging the staff towards achieving the expected goals	Teachers	208	3.52	1.05	3.41	1.76	0.08
		School leaders	160	3.31	1.19			
3	involve teachers and concerned stakeholders in setting the school vision, mission and objectives	Teachers	208	3.62	0.99	3.57	1.01	0.31
		School leaders	160	3.52	0.99			
4	plan and work towards highest academic achievement of students	Teachers	208	3.74	1.07	3.80	1.47	0.14
		School leaders	160	3.87	1.167			
5	allocate resources for the proper implementation and achievement of school vision and goals	Teachers	208	3.66	1.04	3.61	0.96	0.34
		School leaders	160	3. 56	1.06			
	average .mean	Teachers	208	3.59		3.54		
		School leaders	160	3.49				

WM = Weighted mean, Significant level =*0.05*, t-critical value =*1.99*, Sig (2 tailed) =P, Mean scores 1- 1.80 = very low, 1.81-2.60= low, 2.61-3.40 = moderate, 3.41-4.20 = high and 4.21- 5.00 = very high

The table 6 shows that the practice of school leaders in setting school's mission, vision and goal. With regard to item 1 which is concerned with the practice of school leaders in developing the school mission, goals and objectives for the improvement of students' academic achievement, the mean value 3.43 and 3.22 was obtained from both teachers and school leader's responses with 3.33 weighted mean values. Developing the school mission, goals and objectives for the improvement of students' academic achievement rated at moderate level leadership practice as indicated in the mean values of 3.43 and 3.22 by teachers and school leaders respectively. The t-value (1.88) is less than t-critical value (1.99) and p value (0.06) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

With respect to item 2 on the table 6, which are concerned with school leaders capability in setting directions and encouraging the staff towards achieving the expected goals was rated at high level as indicated in the mean values of 3.52 and 3.31 by teachers and school leaders respectively with 3.42 weighted mean. The t-value (1.76) is less than t-critical value (1.99) and p value (0.08) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

From item 3 on the table 6, shows that the practice of school leaders involves teachers and concerned stakeholders in setting the school mission and objectives was highly practiced as indicated in the mean values of 3.62 and 3.52 by teachers and school leaders respectively with 3.57 weighted mean values. The t-value (1.01) is less than t-critical value (1.99) and p value (0.14) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

The responses from teachers and school leaders on the practice of school leaders towards planning and working for the highest academic achievement of students' shown in item 4, on the above table 6, was performed at highly practiced. This is because the mean values from the two groups was 3.74 and 3.87 by teachers and school leaders respectively with weighted mean values of 3.80 The t-value (1.47) is less than t-critical value (1.99) and p value (0.14) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

Concerning to item 5, on the table 6, shows that allocation of resources by school leaders for the proper implementation and achievement of school vision and goals was highly implemented. This was concluded from the respondents mean values from teachers and schools leaders of 3.66 and 3.56 respectively with weighted mean of 3.61. However, the t-value (0.96) is less than t-critical value (1.99) and p value (0.34) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

Generally, the practice of in setting and defining the school vision, mission and goal was highly implemented as indicated in the average means of 3.59 and 3.49 by teachers and school leaders respectively, with 3.54 weighted mean values.

Table 7: Distributed leadership practice in building effective relationship in secondary schools

No	**The school leaders …**	Respondents	N	Mean	SD	WM	T value	Sig (2tailed
1	challenges people to try out new and innovative ways to do their work	Teachers	208	3.07	1.29	3.35	-4.49	0.00
		School leaders	160	3.63	1.04			
2	develops collaboration, networking and partnerships work relationships between schools	Teachers	208	3.02	1.12	2.95	1.11	0.267
		School leaders	160	2.88	1.34			
3	shows others how their long-term interests can be realized by enlisting in a common vision or inspiring a shared vision	Teachers	208	3.00	1.21	2.96	0.54	0.58
		School leaders	160	2.93	1.19			
4	gives the teacher leaders of the team lots of appreciation and support for their contributions	Teachers	208	3.03	1.12	2.99	0.65	0.52
		School leaders	160	2.96	1.16			
5	searches outside the formal boundaries of his/her organization for innovative ways to improve what we do.	Teachers	208	3.00	1.01	2.89	1.93	0.054
		School leaders	160	2.78	1.09			
	average mean	Teachers	208	3.02		3.03		
		School leaders	160	3.04				

WM = Weighted mean, Significant level =*0.05*, t-critical value =*1.99*, Sig (2 tailed) =P, Mean scores 1- 1.80 = very low, 1.81-2.60= low, 2.61-3.40 = moderate, 3.41-4.20 = high and 4.21- 5.00 = very high

The table 7, shows that the practice of school leaders in building effective relationship in secondary schools. With regard to item 1 which is concerned with the practice of school leaders that challenges people to try out new and innovative ways to do their work was rated at moderate level as indicated in the mean values of the two groups were 3.07 and 3.63 by teachers and school leaders respectively with 3.35 weighted mean values. The t- test result (-4.49) is less than the table value (1.99) and p value less than significant level (P< 0.05) which is confirms that there is statistically significant difference between the responses of the two groups.

With respect the table 7, item 2, showed that distributed leadership practice in develops collaboration, networking and partnerships work relationships between schools communities was rated at moderate level as indicated in the means values of 3.02 and 2.88 by teachers and school leaders respectively with 2.95 weighted mean values. The t-test result (1.11) is less than the t-critical value (1.99) and p value (0.27) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

The responses from teachers and school leaders on the practice of distributed leadership that shows others how their long-term interests can be realized by enlisting in a common vision or inspiring a shared vision shown in item 3 , on the table 7, was rated at moderate level . This is because the mean value from the two groups was 3.00 and 2.93 with the weighted mean value of 2.96. The t-test result (0.54) is lower than the t-critical value (1.99) and p value (0.58) greater than significant level (0.05) which is denotes that there is no significant difference between the perceptions of the two groups of respondents.

With respect to item 4, on the table 7, shows that distributed leadership that gives the teacher leaders of the team lots of appreciation and support for their contributions was rated at moderate level as indicated in the means values of 3.03 and 2.96 by teachers and school leaders respectively with 2.99 weighted mean values. The t-test result (0.65) is less than the t-critical value (1.99) and p value (0.52) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

Concerning to item 5 on the table 7, distributed leadership practice that searches outside the formal boundaries of his/her organization for innovative ways to improve was rated at moderate level. This was concluded from the respondents mean values from teachers and schools leaders of

3.00 and 2.78 with the weighted mean of 2.89. However, the result obtained from the t-test (1.93) is less than the t-critical value (1.99) and p value (0.054) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

As a whole, the distributed leadership practice with regard to building effective relationship in secondary schools was rated at moderate level as indicated in the average means of 3.02 and 3.04 by teachers and school leaders respectively with 3.03 weighted mean values. Therefore, it can be said that the role of distributed leadership practice in building effective relationship among teachers and stake holders in the school was rated at moderate. In connection to this, Marx (2006) stated that school leaders establish and maintain open and productive relations among the school community by working with teachers, students, parents and the community at large and need to be able to develop and maintain positive relationship with all.

Table 8: Distributed leadership practice in redesigning the organization

No	The school leaders …	Respondents	N	Mean	SD	WM	T value	Sig (2 tailed)
1	create conducive environment in which a good working relationship exist	Teachers	208	3.09	1.15	3.06	0.574	0.56
		School leaders	160	3.02	1.27			
2	facilitate supportive atmosphere for teachers and all school members	Teachers	208	2.32	1.17	2.26	-0.62	0.54
		School leaders	160	2.19	1.18			
3	developing and sustaining collaborative cultures depends on putting in place complementary structures in the schools	Teachers	208	2.22	1.07	2.34	-1.02	0.31
		School leaders	160	2.45	1.31			
4	encourage individuals or groups to make decisions on issues important for schools improvement	Teachers	208	2.42	1.19	2.27	-1.63	0.10
		School leaders	160	2.13	1.24			
	average mean	Teachers	208	2.51	1.15	2.48		
		School leaders	160	2.45	1.24			

WM = Weighted mean, Significant level =*0.05*, t-critical value =*1.99*, Sig (2 tailed) =P, Mean scores 1- 1.80 = very low, 1.81-2.60= low, 2.61-3.40 = moderate, 3.41-4.20 = high and 4.21- 5.00 = very high

The table 8 shows that the practice of school leaders in redesigning the organization. With regard to item 1 which is concerned with the practice of school leaders in creating conducive environment in which a good working relationship exist, the mean values of 3.09 and 3.02 was obtained from both teachers and school leader's respectively with 3.06 weighted mean values, which is rated at moderate level leadership practice . The t-test result (0.57) is less than the t-critical value (1.99) and p value (0.56) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

From item 2 on the table 8, shows that the practice of school leaders in facilitating supportive atmosphere for teachers and all staff members is rated at low level as indicated in the mean values of 2.32 and 2.19 by teachers and school leaders respectively with 2.26 weighted mean values. The t-test result (-0.62) is less than the t-critical value (1.99) and p value (0.54) greater than significant level (0.05) which is denotes that there is statistically insignificant difference between the two groups of respondents.

The responses from teachers and school leaders on the practice of school leaders in developing and sustaining collaborative cultures depends on putting in place complementary structures in the schools shown in item 3, on the table 8, was performed at a low level distributed leadership practice. This is because the mean value from the two groups was 2.22 and 2.45 by teachers and school leaders respectively with weighted 2.34 mean values. The t-test result (-1.02) is less than the t-critical value (1.99) and p value (0.31) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

With respect to item 4, on the table 8, shows that the practice of school leaders that encourages individuals or groups to make decisions on issues important for schools improvement is rated low level as indicated in the means values of 2.42 and 2.13 by teachers and school leaders respectively with 2.27 weighted mean values. The t-test result (-1.63) is less than the t-critical value (1.99) and p value (0.10) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

Generally, the practice of school leaders in redesigning the organization was low practiced as indicated in the average means of 2.51 and 2.45 by teachers and school leaders respectively, with 2.48 weighted mean values.

Table 9: Distributed leadership practice in sharing leadership responsibility in secondary schools

No	**The school leaders …**	Respondents	N	Mean	SD	WM	T value	Sig (2 tailed
1	given opportunities for teachers in leadership responsibilities	Teachers	208	2.98	1.11	2.85	2.23	0.03
		School leaders	160	2.73	1.07			
2	given opportunities for unit leaders in leadership responsibilities	Teachers	208	3.14	1.07	3.05	1.65	0.10
		School leaders	160	2.96	1.05			
3	encourage stakeholders to take part in the planning and implementation of school budget	Teachers	208	3.03	1.24	2.98	0.68	0.49
		School leaders	160	2.94	1.25			
4	establish supportive atmosphere in which teachers and staff members were encouraged to work as a team member	Teachers	208	3.16	1.09	3.06	1.87	0.06
		School leaders	160	2.95	1.06			
	average mean	Teachers	208	3.08		2.98		
		School leaders	160	2.89				

WM = Weighted mean, Significant level =*0.05*, t-critical value =*1.99*, Sig (2 tailed) =P, Mean scores 1- 1.80 = very low, 1.81-2.60= low, 2.61-3.40 = moderate, 3.41-4.20 = high and 4.21- 5.00 = very high

The table 9 tells about the practice of school leaders in sharing leadership responsibility in secondary schools. Concerning item 1, teachers and school leaders were asked that given opportunities for teachers in leadership responsibilities in secondary schools. For this, 2.98 and 2.73 mean values of teachers and school leaders respectively, with 2.85 weighted mean values confirms such practice is moderate. The t-test result (2.23) is greater than the t-critical value (1.99) and p value (0.03) less than significant level (0.05) which is denotes that there is significant difference between the two groups of respondents.

Regarding item 2, on the table 9, the respondents were asked whether or not given opportunities for unit leaders in leadership responsibilities. This shows the two groups of respondents mean values of 3.14 and 2.96 of teachers and leaders respectively, including 3.05 weighted mean values which were rated moderate level. The t-test result (1.65) is less than the t-critical value (1.99) and p value (0.10) greater than significant level (0.05). This implies that there is no statistically significant difference between the two groups of respondents' response.

Regarding to item 3, on the table 9, shows that encourage stock holders to take part in the planning and implementation of school budget was rated moderate level, as indicated in the means of 3.03 and 2.94 by teachers and school leaders respectively with 2.98 weighted mean values. The t-test result (0.68) is less than the t-critical value (1.99) and p value (0.49) greater than significant level (0.05) which is denotes that there is no significant difference between the two groups of respondents.

Concerning item 4, on the table 9, shows that establish supportive atmosphere in which teachers and staff members were encouraged to work as a team member was rated moderate level, as indicated in the mean values of 3.16 and 2.95 by teachers and school leaders respectively with 3.06 weighted mean values. Since, the calculated t-test result (1.87) was less than the t-critical value (1.99) and p value (0.06) greater than significant level (0.05). This implies that there is no statistically significant difference between the two groups of respondents' response.

Generally, with regarding to the practice of school leaders in sharing leadership responsibility in secondary schools were rated moderate level of practice, as indicated in the average means of 3.08 and 2.89 by teachers and school leaders respectively with 2.98 weighted mean values.

Table 10: The correlation between dimensions of distributed leadership practice and students' academic achievement

		Over all dimensions	setting and defining the school vision, mission	building effective relationship	redesigning the organization	sharing leadership responsibility	students' academic achievement (EGSLCE)
Over all dimensions	Pearson Correlation	1	-.191**	.287**	.525**	1.000**	.359**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	368	368	368	368	368	368
Setting and defining the school vision, mission	Pearson Correlation	-.191**	1	.353**	-.110*	.392**	.369**
	Sig. (2-tailed)	.000		.000	.036	.000	.000
	N	368	368	368	368	368	368
Building effective relationship	Pearson Correlation	.287**	.353**	1	.324**	.287**	.319**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	368	368	368	368	368	368
Redesigning the organization	Pearson Correlation	.525**	-.110*	.324**	1	-.503**	.024
	Sig. (2-tailed)	.000	.036	.000		.000	.969
	N	368	368	368	368	368	368
Sharing leadership responsibility	Pearson Correlation	1.000**	.392**	.287**	-.503**	1	.390**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	368	368	368	368	368	368
Students' academic achievement (EGSLCE)	Pearson Correlation	.359**	.269**	.219**	.024	.390**	1
	Sig. (2-tailed)	.000	.000	.000	.969	.000	
	N	368	368	368	368	368	368
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

The analysis was addressing the second research question; what is the relationship between distributed leadership practices and students' academic achievement in selected secondary schools of Jimma Zone?

The results of table 10, indicate that there were significant and positive correlation between overall dimensions of distributed leadership practice and students' academic achievement ($r= 0.359$, $r^2=0.128$, $P<0.05$. There is a significant relationship between the two variables, the correlation coefficient is weak. The r^2 value indicates that the overall dimension of distributed leadership practice explains 12.8 % of the variance in students' academic achievement scores in EGSLCE.

The correlation analysis presented in the table shows that, aggregate setting and defining the school vision, mission and goal ($r=0.369$, $r^2=0.136$, $P < 0.05$), aggregate building effective relationship ($r=0.319$, $r^2=0.102$, $P < 0.05$) and aggregate sharing leadership responsibility ($r= 0.390$, $r^2=0.152$, $P < 0.05$) were significantly and moderately correlated to students' academic achievement. On the other hand, aggregate redesigning the organization ($r= 0.024$, $r^2=0.001$, $P > 0.05$) dimension showed no significant relationship with students' academic achievement on EGSLCE.

4.3. Analysis and Interpretation on the patterns of distributed leadership

As the review of the related literature discussed in the foregoing chapter revealed that the independent effect distributed leadership on students' academic achievement was mainly determined by the extent to which patterns of distributed leadership were implemented in the secondary schools. Thus, patterns of distributed leadership were including formal distributed leadership, pragmatic distributed leadership, collaborative distributed leadership and coordinative distributed leadership in the secondary schools.

The variables that measured the patterns of distributed leadership were rated five point Likert scale with one being the lowest score and five being the highest. Then mean scores were compared with 2.50-3.49 (which is moderate) to indicate the level of patterns of distributed leadership as perceived by school leaders and teachers. The mean scores for EGSLCE on the schools were obtained by averaging 10 subjects the students took on the grade 10 national examination. The mean was first computed for an individual student on all subjects in the sample

schools then calculated for each school and across all in the sample schools. The score of 50 percent and above is considered as a pass mark in examination (MoE, 1995). On the other hand, in this study 2(50%) out of 4(100%) EGSLCE score is considered as a pass mark (mean or average score). The mean for each of the four patterns of distributed leadership was calculated by averaging the scores for the entire questionnaire within each patterns of distributed leadership for the 368 (208 teachers and 160 school leaders) in the participating schools.

Tale 11: Descriptive statistics for the patterns of distributed leadership and EGSLCE

	N	Minimum	Maximum	Mean	Std. Deviation
Formal distributed leadership	368	1.00	5.00	3.27	1.19
Pragmatic distributed leadership	368	1.00	5.00	3.08	1.26
Collaborative distributed leadership	368	1.00	5.00	2.95	0.89
Coordinated distributed leadership	368	1.00	5.00	2.81	1.11
Overall patterns	368	1.00	5.00	3.03	1.24
Students' academic achievement (EGSLCE)	4352	1..00	4.00	1.76	0.502

From table 11, the mean for each of the four variables of patterns of distributed leadership practice, formal distributed leadership was found to be high (M=3.27, SD=1.19) followed by pragmatic distributed leadership (M=3.08, SD=1.26), collaborative distributed leadership (M=2.95, SD=0.89) and coordinated distributed leadership (M=2.81, SD=1.11). The average EGSLCE examination scores for all schools was below the mean (M=1.76, SD=0.502).

4.3.1. The relationship between patterns of distributed leadership and students' academic achievement

The analysis was addressing the third research question; what is the relationship between patterns of distributed leadership and students' academic achievement scores in EGSLCE in selected secondary schools of Jimma Zone. The correlation analysis was computed between the mean of each of the patterns of distributed leadership and the mean of the EGSLCE scores for the schools participating in the study. The results were presented in the table 12 below.

Table 12: The correlation between patterns of distributed leadership and students' academic achievement

		Overall patterns	Formal distributed leadership	Pragmatic distributed leadership	Collaborative distributed leadership	Coordinated distributed leadership	Students' academic achievement (EGSLCE))
Overall patterns	Pearson Correlation	1	.572**	.438**	.400**	.700**	.482**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	368	368	368	368	368	368
Formal distributed leadership	Pearson Correlation	.572**	1	.714**	.498**	.472**	.503**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	368	368	368	368	368	368
Pragmatic distributed leadership	Pearson Correlation	.438**	.714**	1	.265**	.608**	.417**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	368	368	368	368	368	368
Collaborative distributed leadership	Pearson Correlation	.400**	.498**	.265**	1	.300**	.337**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	368	368	368	368	368	368
Coordinated distributed leadership	Pearson Correlation	.700**	.472**	.608**	.300**	1	.398**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	368	368	368	368	368	368
Students' academic achievement (EGSLCE))	Pearson Correlation	.482**	.503**	.417**	.337**	.398**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	368	368	368	368	368	368

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

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

The results of table 12, indicate that there were significant and positive correlation between overall patterns of distributed leadership and students' academic achievement (r=0.482, r^2=0.232, P<0.05. There is a significant relationship between the two variables, the correlation coefficient is strong. The r^2 value indicates that the overall pattern of distributed leadership explains 23.2 % of the variance in students' academic achievement scores in EGSLCE.

The correlation analysis presented in the table shows that, formal distributed leadership (r=0.503, r^2=0.253, P < 0.05), pragmatic distributed leadership (r=0.417, r^2=0.174, P < 0.05), collaborative distributed leadership (r= 0.337, r^2=0.056, P < 0.05) and coordinated distributed leadership (r= 0.398, r^2=0.158, P< 0.05) were significantly and moderately correlated to students' academic achievement.

4.3.2. The impact of patterns of distributed leadership on students' academic achievement

Multiple regression analysis was used to determine the independent impacts of each of the patterns of distributed leadership variables on student academic achievement scores in EGSLCE. The analysis was addressing the fourth research question; is what impact do the patterns of distributed leadership have on students' academic achievement in selected secondary schools of Jimma Zone?

Table 13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	. 626	.392	.37	.454	21.61	.000

a. Predictors (Constant): formal distributed leadership, pragmatic distributed leadership, collaborative distributed leadership, coordinated distributed leadership

When evaluating whether the model summary, in which all patterns of distributed leadership were added is successful in predicting students' academic achievement, the model Summary has been assessed. The R square is an important measure which indicates how much of the variance in the dependent variable is accounted for by the different predictors in the model.

The adjusted R square indicates how well the model can be generalized in the population (Fields, 2009). The R square in the data analysis is 0.392, which means that 39.2% of the variance in

students' academic achievement at EGSLCE is explained by the combination of independent variables. According to Pallant (2005) a value around the 0.45 for the R square is a respectable result and the adjusted R square is quite lower than the R square with a value of 0.475.

The F ratio measures whether the model as a whole has statistically significant predictive capacity. The standardized beta value indicates which independent variable account for the strongest, unique contribution to explaining the dependent variable, when the variance explained by the other independent variables in the model is controlled (Pallant, 2005). The standardized betas are interpreted in a similar as correlation and are directly comparable, which makes them a better measure to provide insight in the importance of the different predictors (Fields, 2009; Acock, 2008). More importantly is the question whether a predictor makes as statistically significant unique contribution to the dependent variable. This was assessed by checking whether the p values are smaller than the significance criterion 0.05.

Table 14: Multiple Regression analysis for patterns of distributed leadership variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.921	.121		7.582	.000
	Formal distributed leadership	.308	.072	.804	4.256	.000
	Pragmatic distributed leadership	.306	.051	.684	5.988	.000
	Collaborative distributed leadership	.116	.031	.212	3.747	.000
	Coordinated distributed leadership	.213	.060	.486	3.560	.000

a. Dependent Variable: students' academic achievement (EGSLCE)

P<0.05

Using the enter method it was found that the four patterns of distributed leadership variable had an overall positive impact on explaining the variance in students' academic achievement ($F=21.61$, $R^2=0.392$, $\Delta R^2 = 0.37$, $P< 0.05$). The result shows that 39.2% of the variation in students' academic achievement at EGSLCE can be explained by the four patterns of distributed leadership. When adjusted R^2 (ΔR^2) is used the model predicts about 37% variation in students' academic achievement at EGSLCE.

The results of table 14 shows that aggregate formal distributed leadership ($B=0.308$, $\beta=0.804$, $P<0.05$) and aggregate pragmatic distributed leadership ($B=0.306$, $\beta=0.684$, $P<0.05$) had significant and moderately strong positive impacts on students' academic achievement. On the other hands, aggregate coordinated distributed leadership (($B=0.213$, $\beta=0.486$, $P<0.05$) and aggregate collaborative distributed leadership ($B=0.116$, $\beta=0.212$, $P < 0.05$) had a significant and moderately positive impacts on students' academic achievement.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS OF THE FINDINGS

This chapter deals with the summary of major findings, the conclusion drawn from the findings and recommendations. Hence, the Chapter is divided into three sections. The first section summarizes the major findings of the study. The conclusion drawn from the findings of the study are provided in the second section. In the last section, recommendations of the study are put forward.

5.1. Summary of Major Findings

The main purpose of this study was to investigate relationship between distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone. To this end, an attempt has been made to assess the dimensions of distributed leadership practice; the relationship between dimensions of distributed leadership practice and students' academic achievement; the relationship between patterns of distributed leadership and students' academic achievement and the impact of patterns of distributed leadership on students' academic achievement. In order to achieve the objective of the study, the following basic questions were stated and answered.

1. What is the practice of distributed leadership in selected secondary schools of Jimma Zone?
2. What is the relationship between distributed leadership practices and students' academic achievement in selected secondary schools of Jimma Zone?
3. What is the relationship between patterns of distributed leadership and students' academic achievement in selected secondary schools of Jimma Zone?
4. What impact do the patterns of distributed leadership have on students' academic achievement in selected secondary schools of Jimma Zone?

A correlational design of quantitative research approach was employed in this study. The related literature was reviewed and documented. In order to get answers for the above basic questions, among eighty eight secondary schools found in Jimma Zone, the study was carried out in sixteen secondary schools that were selected by using simple random sampling technique. Among 912 target populations of the study, 368 participants (160 school leaders and 208 teachers) were

taken for this study. One set of questionnaire was used for data collection in the study. The entire questionnaire that was distributed to the teachers and school leaders were completed and returned to the researcher.

Finally, quantitative data collected through questionnaire was coded and presented for analysis. In this study, different data analysis tools such as mean values, weighted mean values, an independent simple t-test, Pearson correlation coefficient and multiple regression analysis were used. Therefore, the analysis made then justifies the following major findings.

One of the findings of this study was to identify the extent at which distributed leadership had practiced in secondary schools of Jimma Zone. The study had shown those four dimensions of distributed leadership i.e. the setting and defining the schools vision, mission and goals, building effective relationship in the schools, redesigning the organization and sharing leadership responsibility in secondary schools.

The finding of this study indicated that the practice of school leaders in setting and defining the school vision, mission and goal was highly practiced in secondary schools of Jimma Zone. Moreover, the finding of this study showed that the practice of school leaders involves teachers and concerned stakeholders in setting the school vision, mission and objectives, plan and work towards highest academic achievement of students and allocate resources for the proper implementation and achievement of school vision and goals was highly implemented. However, the practice of school leaders in developing the school vision, mission, goals and objectives and capability in setting directions and encouraging the staff towards achieving the expected goal was moderately practiced.

The finding of this study showed that the practice of school leaders building effective relationship in secondary schools was moderately practiced. Additionally, the finding of this study indicated that the practice of school leaders that challenges people to try out new and innovative ways to do their work , develops collaboration, networking and partnerships work relationships between schools, shows others how their long-term interests can be realized by enlisting in a common vision or inspiring a shared vision, gives the teacher leaders of the team lots of appreciation and support for their contributions and searches outside the formal boundaries of his/her organization for innovative ways to improve what to do was moderately practiced .

The finding of this study indicated that the practice of school leaders in redesigning the organization was low practiced in secondary schools of Jimma Zone. Furthermore, the finding of this study indicated that the practice of school leaders that create conducive environment in which a good working relationship exist, facilitate supportive atmosphere for teachers and all school members, developing and sustaining collaborative cultures depends on putting in place complementary structures in the schools and encourage individuals or groups to make decisions on issues important for schools improvement was low practiced.

The finding of this study showed that the practice of school leaders that sharing leadership responsibilities in secondary schools was moderately practiced. Additionally, the finding of this study indicated that the practice of school leaders that given opportunities for teachers in leadership responsibilities, given opportunities for unit leaders in leadership responsibilities, encourage stakeholders to take part in the planning and implementation of school budget establish supportive atmosphere in which teachers and staff members were encouraged to work as a team member was moderately practiced.

The second findings of this study aims at investigating whether a significant relationship exists between distributed leadership practices and student academic achievement scores in EGSLCE in secondary schools of Jimma Zone. The finding of the study indicates that there were significant and positive correlation between overall dimensions of distributed leadership practice and students' academic achievement scores in EGSLCE in secondary schools of Jimma Zone. Furthermore, the finding of this study had shown that the three dimensions of distributed leadership practice i.e. the setting and defining the schools vision, mission and goals, building effective relationship in the schools and sharing leadership responsibilities were significantly and moderately correlated with students' academic achievement scores in EGSLCE. However, redesigning the organization dimension showed no significant relationship with students' academic achievement scores in EGSLCE.

The third findings of this study aims at investigating whether a significant relationship exists between patterns of distributed leadership and student academic achievement in secondary schools of Jimma Zone. The findings of this study indicated that there were significant and positive correlation between overall patterns of distributed leadership and students' academic achievement scores in EGSLCE in secondary schools of Jimma Zone. Moreover, the finding of

this study showed that the two patterns of distributed leadership (formal, pragmatic), had a significant and strong positive correlated to students' academic achievement scores in EGSLCE. Besides, collaborative and coordinated distributed leadership had a significant and moderate correlated to students' academic achievement scores in EGSLCE.

The fourth findings of this study aims at investigating the impact of patterns of distributed leadership on students' academic achievement scores in EGSLCE in secondary schools of Jimma zone. The findings of this study had showed that the four factors used for patterns of distributed leadership as predictor variables in the regression model were shown to have a significant relationship with students' academic achievement when viewed as whole. Furthermore, formal and pragmatic distributed leadership had significant and moderate strong positive impacts on students' academic achievement scores in EGSLCE in secondary schools of Jimma Zone. These factors were significant and positive correlation with students' academic achievement as well as emerged as the most significant predictor of students' academic achievement in the multiple regression analysis. Similarly, collaborative and coordinated distributed leadership had significant and moderate positive impacts on students' academic achievement as well as significant predictor of students' academic achievement. These factors are also found to be significant predictor of students' academic achievement.

5.2. Conclusions

Based on the findings of this study, the following conclusions were drawn:

1. The finding of this study indicated that distributed leadership practice was highly in setting and defining the school vision, mission and goal. However, distributed leadership practice were moderately practice of in building effective relationship and sharing leadership responsibilities in secondary schools of Jimma Zone. On the other hands, distributed leadership practice in redesigning the organization was low in secondary schools of Jimma Zone.
2. The finding of this study showed that there were significant and positive relationship between distributed leadership practice and students' academic achievement in secondary schools of Jimma Zone. Realizing that distributed leadership practice (setting and defining the schools vision, mission and goals, building effective relationship in the schools, redesigning the organization and sharing leadership responsibility) ,school leaders must create conditions in

which a good working relationship exist, teachers share leadership responsibilities and decision making and challenge each other's to thinking .

3. The findings of this study indicated that there were significant and positive relationship between patterns of distributed leadership and students' academic achievement in secondary schools of Jimma Zone. The fact that there was significant relationship between patterns of distributed leadership and students' academic achievement is a reason to student academic achievement are more likely to improve when leadership sources are distributed throughout the school community and when teachers are empowered in areas of expertise.
4. The findings of this study showed that patterns of distributed leadership (formal, pragmatic, collaborative and coordinated) had significant and moderately positive impacts on students' academic achievement. These factors were significant and positive correlation with students' academic achievement as well as emerged as the most significant predictor of students' academic achievement. Besides, formal and pragmatic distributed leadership had significant and moderately strong positive impacts on students' academic achievement. To understand distributed leadership more clearly, it is important to note that there are different patterns of distributed leadership. Studying the different patterns of distributed leadership and their impacts on students' academic achievement may bring us closer to understanding what forms or patterns of distributed leadership in practice are more likely to improve students' academic achievement.

5.3. Recommendations

Based on the findings of this study, following recommendations were forwarded for the successful practice of distributed leadership in government secondary schools of Jimma Zone. Therefore, the researcher recommended the following to teachers, school leaders, wereda education office, policymakers and MoE.

1. The researcher recommended that policymakers should pay attention to the importance of distributed leadership in secondary schools. The approach requires attention and planned implementation for it to be successful. Schools may want to take a look at school communities and how they collaborate and coordinate together in order to improve student academic achievements. In addition, to acknowledge the contributions of school leaders, a

recognition system should be designed school leaders for outstanding work related to distributed leadership behaviors that result in better student achievement.

2. It is recommended that the woreda education office should look at all leadership roles at schools and offer support in the form of trainings, seminars and workshops for all school leaders and teachers on the impact of distributed leadership on students' academic achievement .

3. . The researcher recommended that school leaders be committed to improve students' academic achievement by implementing patterns of distributed leadership (formal, pragmatic, collaborative and coordinated) in secondary schools.

4. . The researcher recommends that school leaders be committed to assisting the teaching learning process and providing distributed leadership by developing collaboration, coordination, networking and partnerships work relationships between school communities for students' academic success.

5. It is recommended that the teachers are exercise the patterns of distributed leadership, which is critical to distributed leadership practice, is based on an important idea of if the schools are to become better at providing learning for students, they must also become better at providing teacher leaders chances to develop and grow. It is also is recommended that school improvement is achieved where teachers understand patterns of distributed leadership, and are able to put into practice.

6. Although this research may have its own contribution in understanding the impact of distributed leadership on students' academic achievement in secondary schools of Jimma Zone, the outcomes of the study were not completed. Therefore, the researcher recommends that those who want to conduct further study on the relationship between distributed leadership and students' academic achievement in the schools of the zone.

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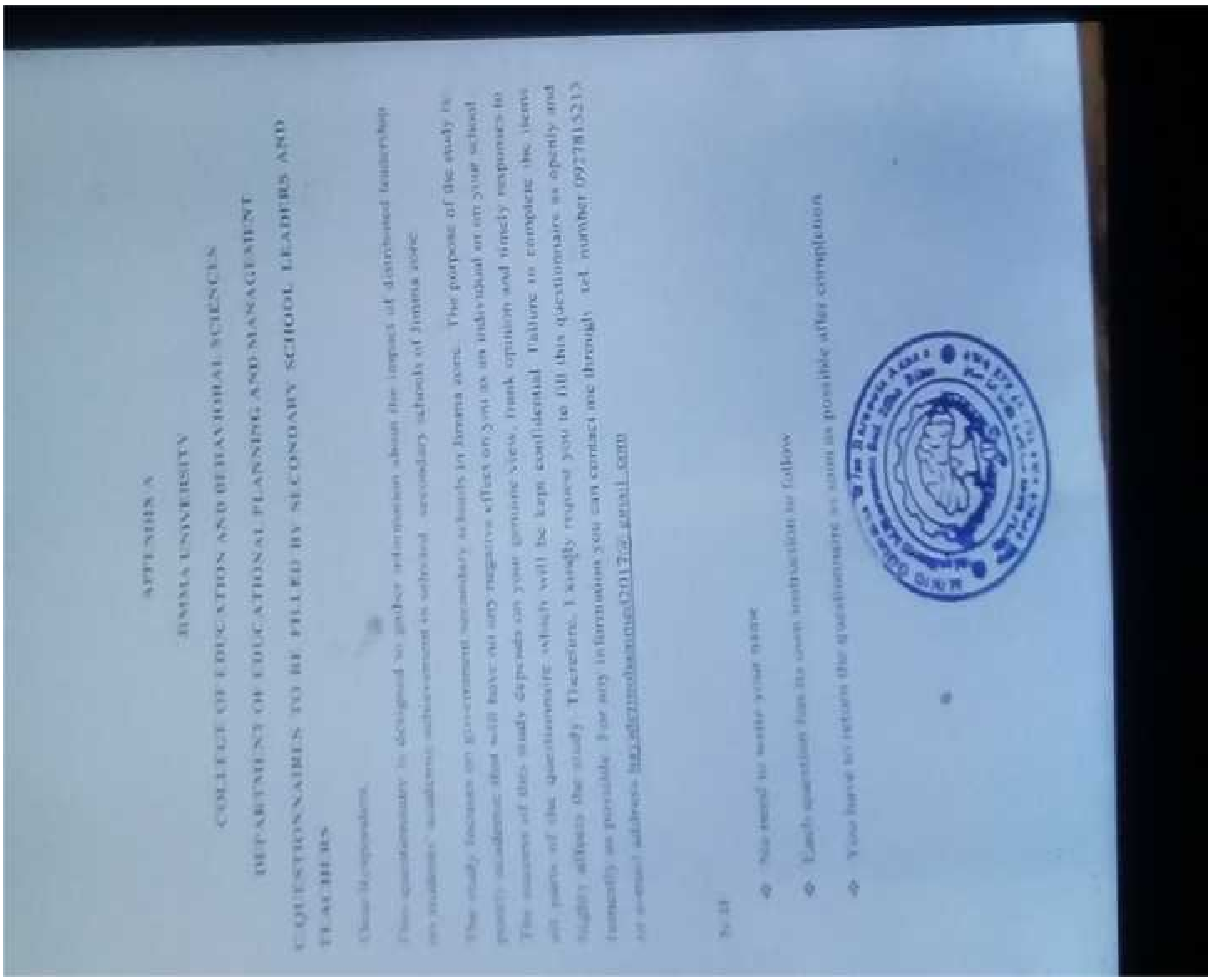
APPENDICES

APPENDIX A

Sample of secondary schools



APPENDIX A

JIMMA UNIVERSITY

COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCES

DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT

C.QUESTIONNAIRES TO BE FILLED BY SECONDARY SCHOOL LEADERS AND TEACHERS

Dear Respondent,

This questionnaire is designed to gather information about the impact of distributed leadership on students' academic achievement in selected secondary schools of Jimma zone.

The study focuses on government secondary schools in Jimma zone. The purpose of the study is purely academic that will have no any negative effect on you as an individual or on your school. The success of this study depends on your genuine view, frank opinion and timely responses to all parts of the questionnaire which will be kept confidential. Failure to complete the items highly affects the study. Therefore, I kindly request you to fill this questionnaire as openly and honestly as possible. For any information you can contact me through tel. number 0927815213 or e-mail address [illegible]2017@gmail.com

N.B

- No need to write your name
- Each question has its own instruction to follow
- You have to return the questionnaire as soon as possible after completion

=

Part II. Leadership Practice in secondary schools

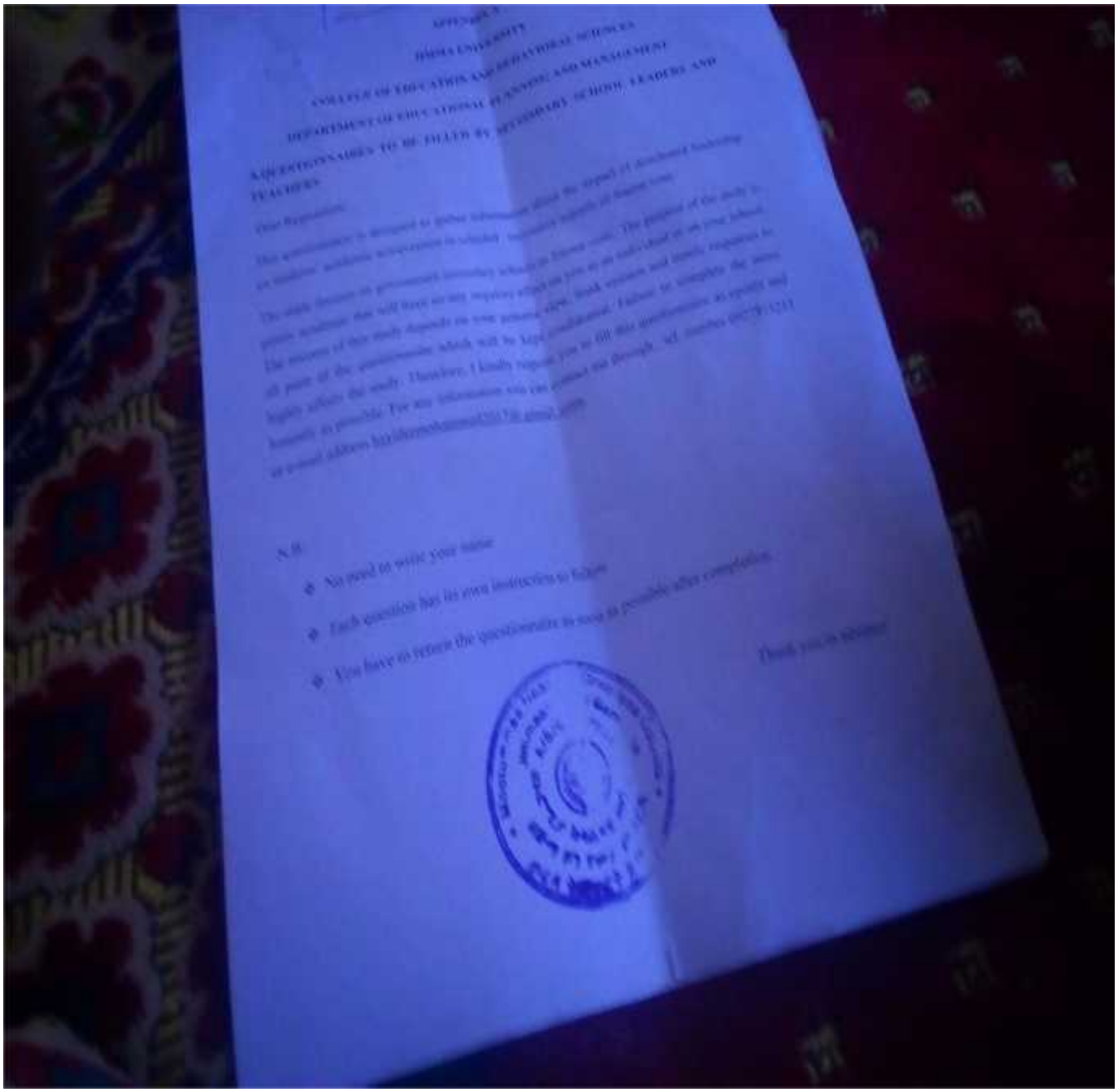
Direction 2: The following statements show the Leadership Practices in secondary school. Please indicate your level of fillings the extent to which each statement characterizes your school by putting tick mark (√) in one of the boxes against each item ranging 1 to 5. The numbers indicate:

5=Strongly Agree (SA) 3=Undecided (UD) 1=Strongly Disagree (SD)

4=Agree (A) 2=Disagree (DA)

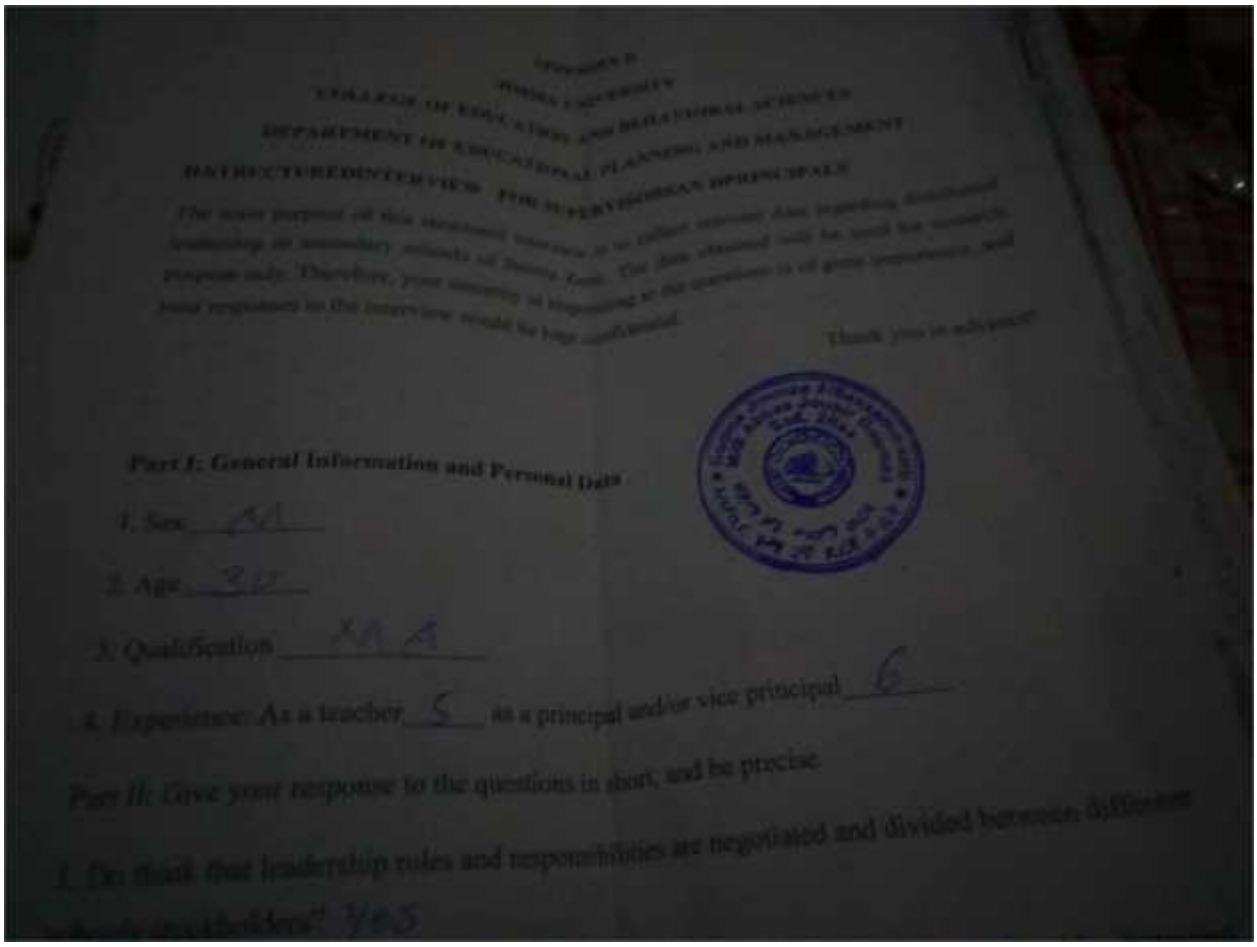
1. Leadership practice in Setting and Defining the School Vision, mission and goal

No	Item	5	4	3	2	1
1	Develop the school mission, goals and objectives for the improvement of students' academic achievement					✓
2	Capability in setting directions and encouraging the staff towards achieving the expected goals		✓			
3	Involve teachers and concerned stakeholders in setting the school mission and objectives		✓			
4	Plan and work towards highest academic achievement of students		✓			
5	Communicate the mission with stakeholders in order to have common understanding and shared value			✓		
6	Allocate resources for the proper implementation and achievement of school vision and goals		✓			
7	Frame the school goal for students' academic achievement		✓			



N.B

- No need to write your name
- Each question has its own instruction to follow
- You have to return the questionnaire as soon as possible after completion.



Part I: General Information and Personal Data

1. Sex: M

2. Age: 32

3. Qualification: MA

4. Experience: As a teacher 5 as a principal and/or vice principal 6

Part II: Give your response to the questions in short, and be precise

1. Do think that leadership roles and responsibilities are negotiated and divided between different

APPENDIX B

JIMMA UNIVERSITY

COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCES

DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT

B.QUESTIONNAIRES TO BE FILLED BY SECONDARY SCHOOL LEADERS AND TEACHERS

Dear Respondent,

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The study focuses on government secondary schools in Jimma zone. The purpose of the study is purely academic that will have no any negative effect on you as an individual or on your school. The success of this study depends on your genuine view, frank opinion and timely responses to all parts of the questionnaire which will be kept confidential. Failure to complete the items highly affects the study. Therefore, I kindly request you to fill this questionnaire as openly and honestly as possible. For any information you can contact me through tel. number 0927815213 or e-mail address hayidermohammed2017@ gmail .com

N.B:

- No need to write your name
- Each question has its own instruction to follow
- You have to return the questionnaire as soon as possible after completion.

Thank you in advance!

Part I. Personal Information

Direction 1: Write name of your school on the blank space provided and put (√) mark on the box you chose as answer for each question.

Zone_____Woreda _____ Name of the school: _____

1.1. Your role in school: Supervisor ☐ Dept. head ☐ Teacher ☐ Unit leader ☐

1.2. Sex: Male ☐ Female ☐

1.3. Age: 21-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐

41-45 ☐ 46-50 ☐ above 50 ☐

1.4. Level of Educational attainment: Certificate ☐ Diploma ☐ BA/BSC/BED ☐ MA/MSC ☐ other _____

1.5. Work experience in years: 5 and below ☐ 6-10 Year ☐ 11-15 Year ☐ 16-20Year ☐ 21-25 ☐ 26 and above ☐

1.6. Training attended relevant to School leadership:

Did not take at all ☐ Less than 1week ☐

1-2 week ☐ 3-4 week ☐ 1-3 month ☐ More than 3 month ☐

Part II. Distributed Leadership Practice in secondary schools

Direction 2: The following statements show the Leadership Practice in secondary school. Please indicate your level of fillings the extent to which each statement characterizes your school by putting tick mark (√) in one of the boxes against each item ranging 1 to 5. The numbers indicate:

5=Strongly Agree (SA) 3=Undecided (UD) 1=Strongly Disagree (SD)

4=Agree (A) 2=Disagree (DA)

1 .Distributed leadership practice in setting and defining the school vision, mission and goal

No	Item	**5**	**4**	**3**	**2**	**1**
1	Develop the school mission, goals and objectives for the improvement of students' academic achievement					
2	Capability in setting directions and encouraging the staff towards achieving the expected goals					
3	Involve teachers and concerned stakeholders in setting the school mission and objectives					
4	Plan and work towards highest academic achievement of students					
5	Allocate resources for the proper implementation and success of school vision and goals					

2 .Distributed leadership practice in building effective relationship in secondary schools

No	Item	5	4	3	2	1
1	Challenges people to try out new and innovative ways to do their work.					
2	Developing people in the schools.					
3	Shows others how their long-term interests can be realized by enlisting in a common vision or Inspiring a Shared Vision.					
4	Gives the teacher leaders of the team lots of appreciation and support for their contributions.					
5	Searches outside the formal boundaries of his/her organization for innovative ways to improve what to do					

3. Distributive leadership practices in redesigning the school

No	**Item**	**5**	**4**	**3**	**2**	**1**
1	Create conducive environment in which a good working relationship exist.					
2	Facilitate supportive atmosphere for teachers and all school members.					
3	Developing and sustaining collaborative cultures depends on putting in place complementary structures in the schools.					
4	Encourage individuals or groups to make decisions on issues important for schools improvement.					

4 .Distributed leadership practice sharing leadership responsibility in secondary schools

No	Item	5	4	3	2	1
1	Given opportunities for teachers in leadership responsibilities.					
2	Given opportunities for unit leaders in leadership responsibilities.					
3	Encourage stock holders to take part in the planning and implementation of school budget.					
4	Establish supportive atmosphere in which teachers and staff members were encouraged to work as a team member.					

Part III. Patterns of Distributed Leadership in secondary schools

Direction 3: The following statements show that the patterns and practice of Distributed Leadership in secondary school. Please indicate your level of fillings the extent to which each statement characterizes your school by putting tick mark (√) in one of the boxes against each item ranging 1 to 5. The numbers indicate:

5=Strongly Agree (SA) 3=Undecided (UD) 1=Strongly Disagree (SD)

4=Agree (A) 2=Disagree (DA)

1. Formal Distributed leadership

No	Item	5	4	3	2	1
1	Leadership roles and responsibilities are intentionally delegated or devolved					
2	Creating and communicating the school mission and vision.					
3	Supervising and evaluating instruction					
4	Managing student progress					

2. Pragmatic Distributed leadership

No	Item	5	4	3	2	1
1	Leadership roles and responsibilities are negotiated and divided between different actors.					
2	Allocation of resources for the proper implementation and academic achievement of students					
3	To create a climate and culture that supports home-school partnerships					
4	Community participation in facilitating student learning					

3. Collaborative Distributed leadership

No	**Item**	**5**	**4**	**3**	**2**	**1**
1	Enhances teacher participation in decision-making					
2	Encourage stock holders to take part in the planning and implementation of school budget.					
3	Develops Collaboration, networking and partnerships work relationships between schools stakeholders.					
4	Monitoring student progress					

4. Coordinated Distributed leadership

No	Item	5	4	3	2	1
1	Promote, develop and implements professional development					
2	Planning, coordinating, and evaluating teaching and the curriculum					
3	Establish supportive atmosphere for teachers.					
4	Makes individuals work in sequence in order to complete a leadership routine.					

Appendix C: Scatterplots

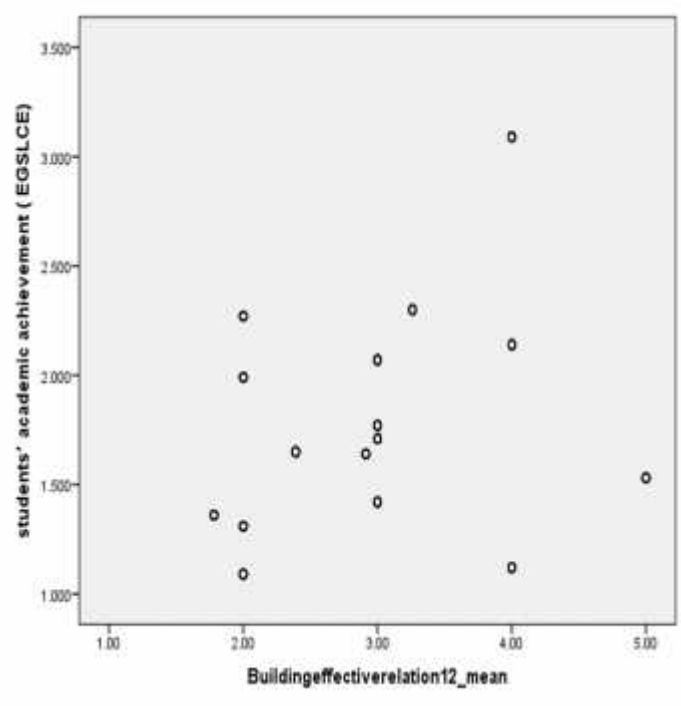


Figure Scatterplot indicating the relationship between building effective relation and academic achievement

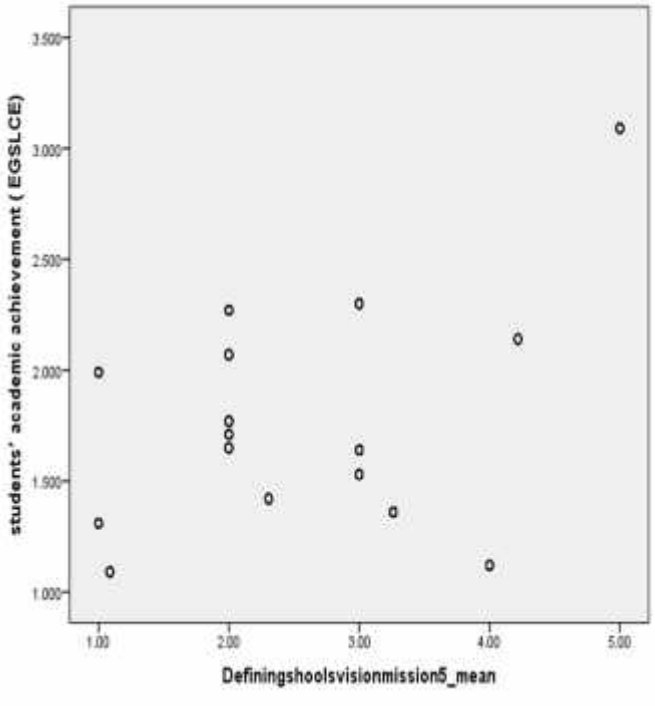


Figure Scatterplot indicating the relationship between setting &defining vision and academic achievement

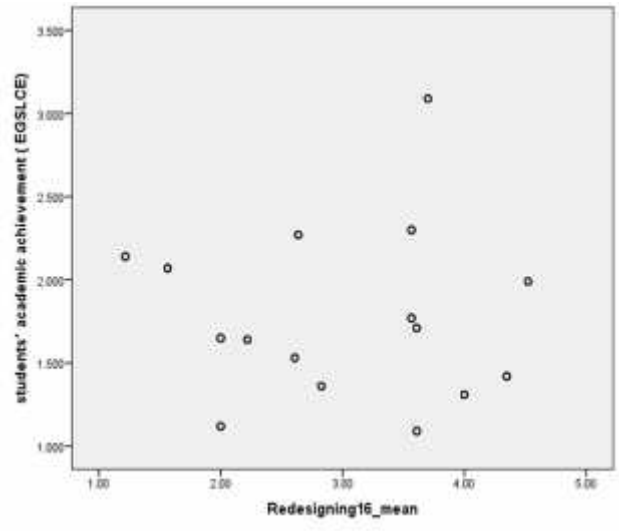


Figure Scatterplot indicating the relationship between Redesigning and academic achievement

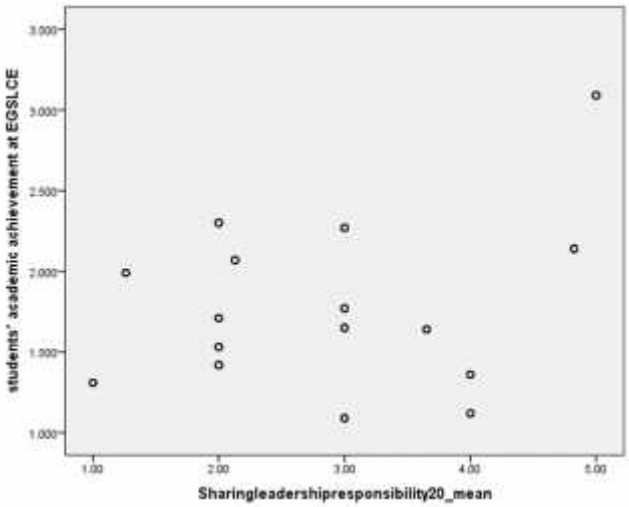
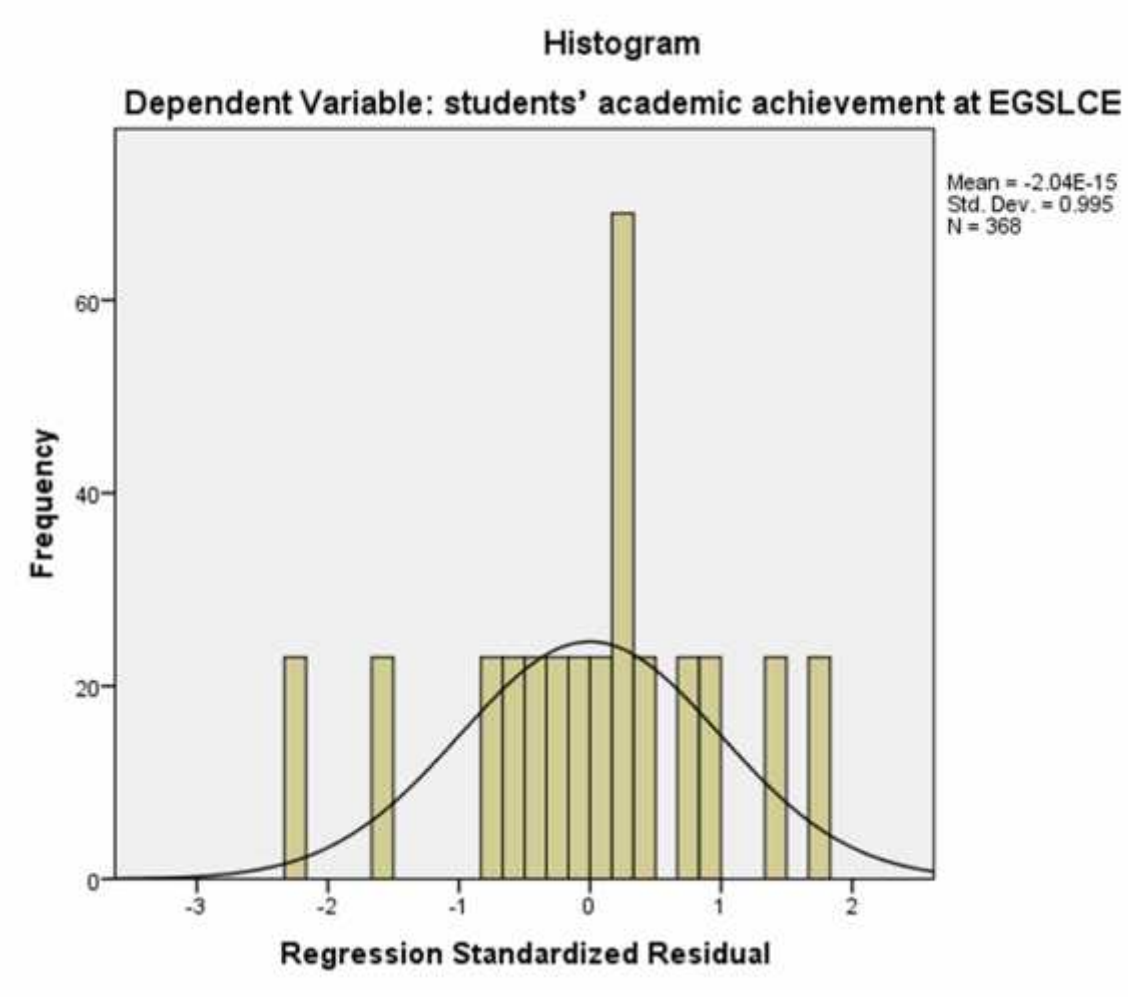
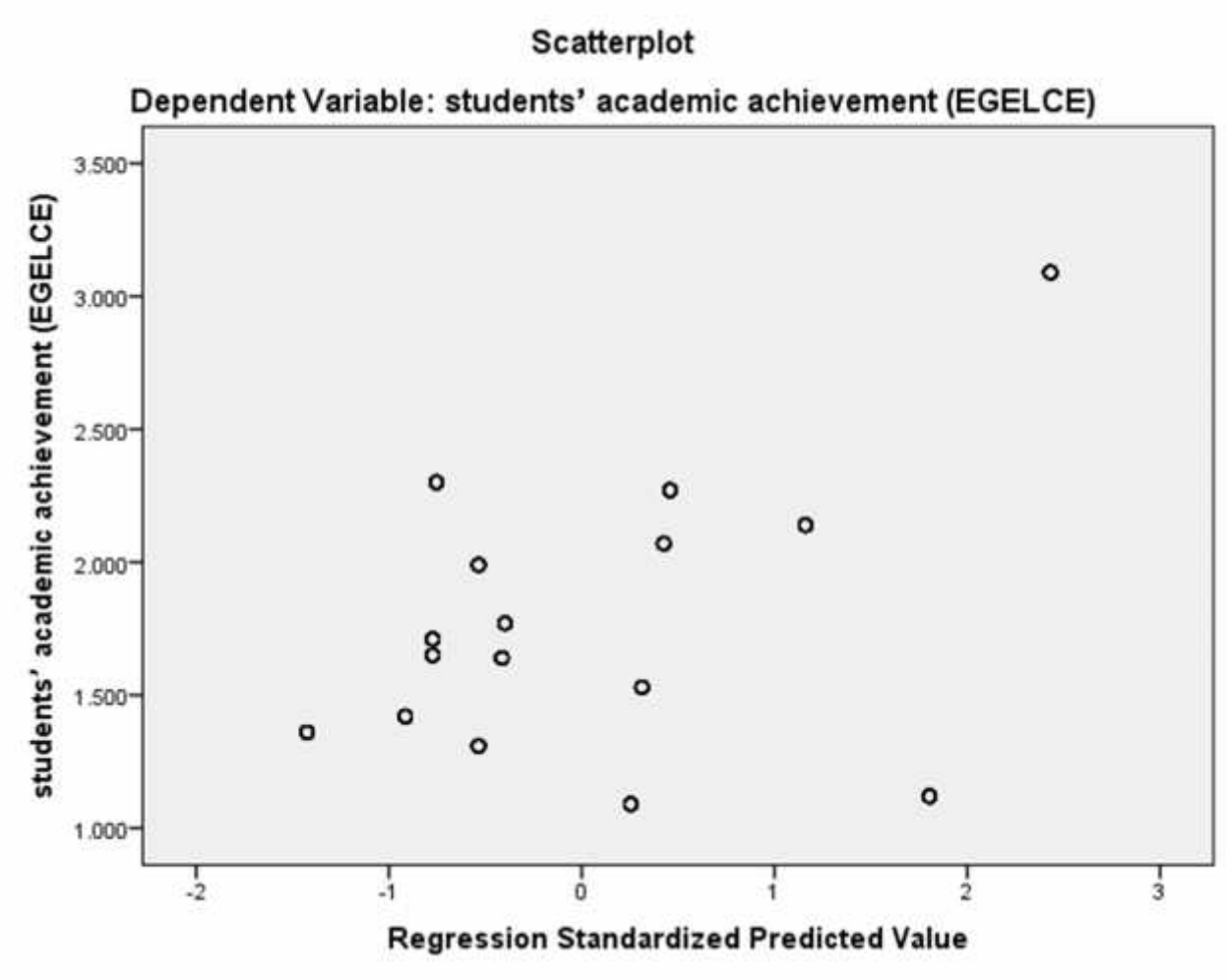
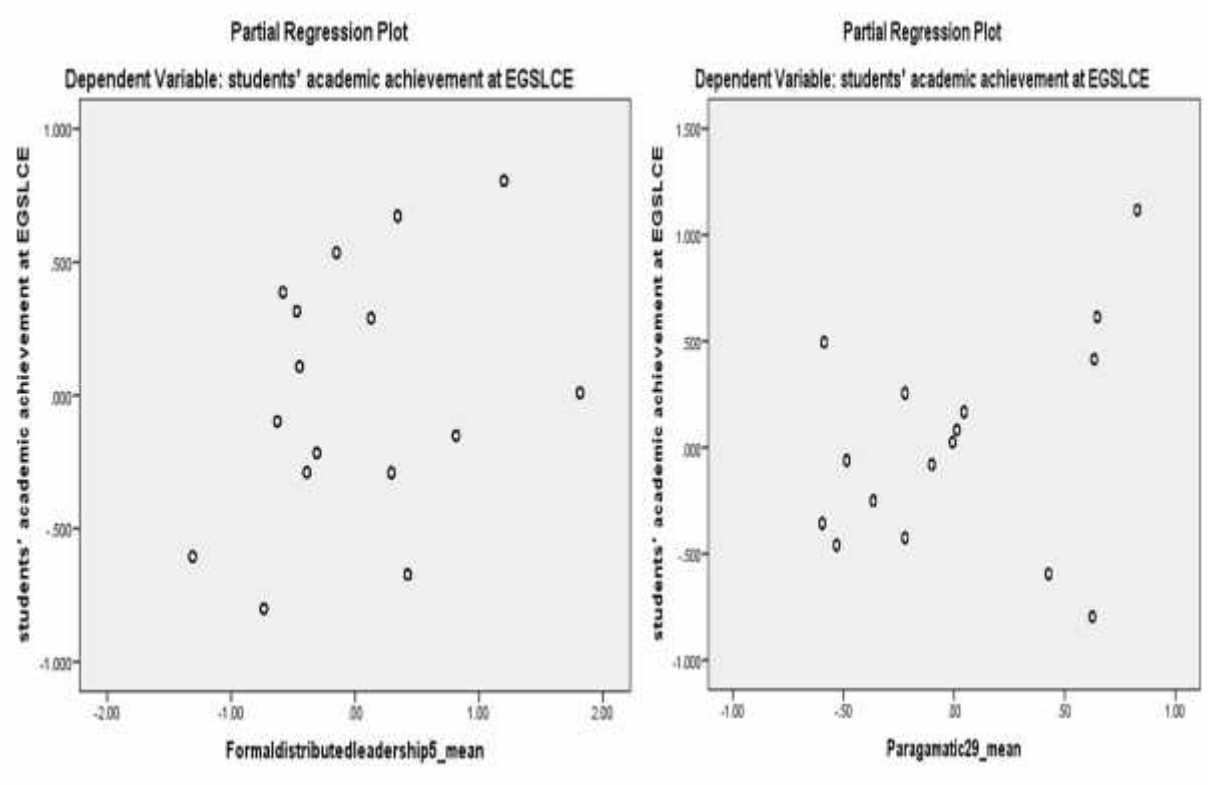


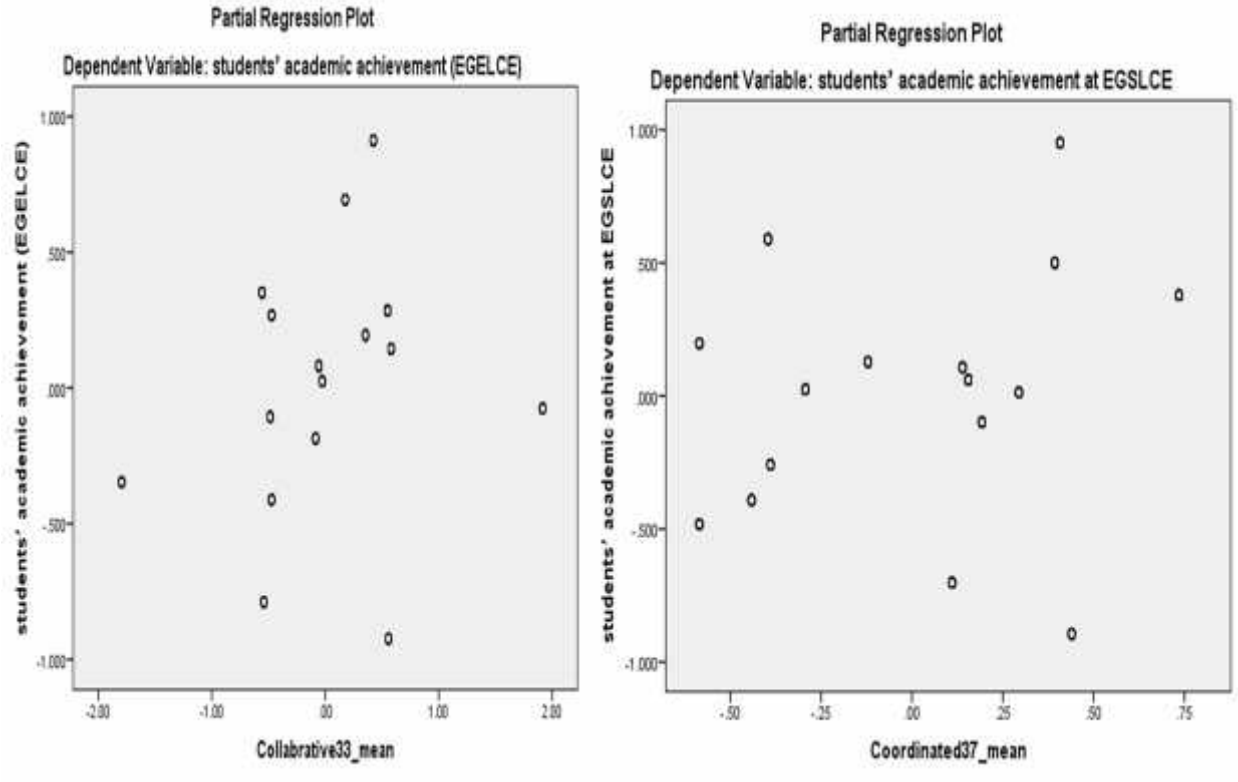
Figure Scatterplot indicating the relationship between Sharing responsibility and academic achievement

Appendix D: Patterns of Distributed leadership




Scatterplot
Dependent Variable: students' academic achievement (EGELCE)
students' academic achievement (EGELCE)
3.500
3.000
2.500
2.000
1.500
1.000
-2
-1
0
1
2
3
Regression Standardized Predicted Value


Partial Regression Plot
Dependent Variable: students' academic achievement at EGSLCE
students' academic achievement at EGSLCE
Formaldistributedleadership5_mean
Partial Regression Plot
Dependent Variable: students' academic achievement at EGSLCE
students' academic achievement at EGSLCE
Paragamatic29_mean


Partial Regression Plot
Dependent Variable: students' academic achievement (EGELCE)
students' academic achievement (EGELCE)
Collabrative33_mean
Partial Regression Plot
Dependent Variable: students' academic achievement at EGSLCE
students' academic achievement at EGSLCE
Coordinated37_mean