

**INFLUENCE OF COLLABORATIVE LEARNING STRATEGY ON
LEARNER ACHIEVEMENT IN ACCOUNTING IN SECONDARY SCHOOLS
IN IGEMBE CENTRAL SUB-COUNTY, KENYA**

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DECLARATION


I declare that this research project is my original work and has not been submitted to any University for examination or for any other award.



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DEDICATION

I dedicate this work to my loving dad Valerio Mungeria and my husband Gerald Itobi for their support, understanding and patience for the period I was doing my masters degree in Business Education. My lovely children Alvis Mwenda and Jasmine Kathomi for their patience during the time I was developing this research project. May this work be a source of inspiration to them.

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ABBREVIATIONS AND ACRONYMS

AC	Abstract Conceptualization
AE	Active Experimentation
CATs	Continuous Assessment Tests
CE	Concrete Experience
CL	Collaborative Learning
ELT	Experiential learning Theory
IS	Interpersonal Skills
KICD	Kenya Institute of Curriculum Development
KNEC	Kenya National Examinations Council
NACOSTI	National Commission for Science, Technology and Innovation.
PI	Positive interdependence
PI	Promotive Interaction
PS	Problem Solving
QASO	Quality Assurance and Standards Officers
RO	Reflective Observation
SS	Social Skills

ABSTRACT

This study aimed at investigating influence of collaborative learning strategy on learner achievement in accounting in Secondary schools in Igembe Central sub-county, Kenya. The study was guided by the following objectives: to determine influence of positive interdependence on learners' achievement in accounting, to examine influence of interpersonal skills on learners' achievement in accounting and to evaluate influence of promotive interaction on learner achievement in accounting. The sample for the study was made up of four Secondary schools in Igembe Central Sub-County, 4 principals, 6 Business Studies teachers and 161 form three business studies students from four schools. Purposive sampling was used to identify the four schools. Based on Kolb's experiential learning theory, Solomon four-group design was applied to guide the research process. Questionnaire was used to source data from teachers and students, Interview schedule was used for the principals and observation schedule for learners to record and measure extent to which they engaged in the learning process through CL. Data collected was coded and entered into Statistical Package for Social sciences (SPSS version 25.0) software for statistical analysis. Data analysis generated frequency distributions, cross tabulations and multiple linear regression results for interpretation and discussion. Linear regression model was used to show significance of the relationship between independent and dependent variables. The findings revealed that Collaborative learning was positively and significantly related to Learner achievement. Influence of positive interdependence ($Beta=0.121$, P -value= 0.036); Effect of interpersonal skills ($Beta=0.098$, P -value= 0.000) and impact of promotive interaction ($Beta=0.107$, P -value= 0.001) significantly enhance high achievement in accounting. The findings further revealed that collaborative learning creates a better opportunity for learning by involving every learner in the learning process. In addition, pre-test and post-test for the achievement test results revealed a statistically significant difference between the groups for post-tests on control and experimental groups. On the basis of the findings, the study concluded that collaborative learning promotes a conducive learning environment that produces more responsible and committed learners as every learner in the group is accountable for the group's success. The learning strategy also enhanced learner achievement in accounting. Thus, based on the findings and the conclusions, the study recommended that learners be encouraged to adopt Collaborative learning strategy in learning accounting so as to assist each other develop knowledge and acquire success. Participation of all learners in handling group tasks is key in enhancing high achievement in accounting.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Effective use of collaborative learning (CL) strategy increases learner involvement in the learning process which accelerates acquisition of knowledge, skills and positive attitude in accounting raising achievement. Kalpana (2014) reports that collaborative learning involves a system in which mixed learners are working in groups and get incentives based on the achievements of their groups. CL occur naturally as a social act whereby learners communicate and share ideas by studying accounting and through talking and communicating, learning occurs. Taking into consideration the essential function of accounting in educating students to be active participants in the country's economic growth, use of CL strategies would equip learners with right skills leading to high achievement in accounting. Therefore, restructuring accounting concepts in Business studies in the light of existing social and economic position of the country would provide learners with education relevant to society's needs (Sithole, 2012). The success of a collaborative learning method rests significantly on whether groups are able to respond appropriately to elements which are proving difficult to work with (Lee, Huh, & Reigeluth, 2015). Organizing learners appropriately and guiding them in the learning process through CL would counter these challenges and yield high achievement in accounting.

A study carried out by Sultana, Iqbal, Ullah & Khan, (2004) in Pakistan to examine effect of CL on academic achievement on Secondary school students in Mathematics revealed that students who were taught through CL had high scores in comparison with

those taught by traditional techniques. Another study carried out by Booyesen, (2015) in South Africa to determine influence of CI on learner achievement in a Geography class showed that through CI learners acquire good interpersonal skills leading to high achievement in the subject. Accounting concepts prepare learners for challenges of the 21st century by equipping them with right skills and knowledge needed in the economy (Charity, & Igwe, 2016). By engaging in discussion through collaborative learning strategy within the class and working on accounting concepts and tasks assigned, learners tend to become critical thinkers (Igbo, Obiyo, Onu, & Eskay, 2014).

Through studying collaboratively, learners' exhibit enhanced achievement in accounting for example, higher scores on knowledge testing and better problem-solving skills, than when working individually. However, in instances where collaborative learning strategy is meekly adopted, learning achievement in accounting may be compromised. In support to this, Slavin (2014) affirmed that unstructured use of collaborative learning strategy lower acquisition of concepts and skills among learners resulting to weak achievement in accounting. Collaborative learning groups are more suited to tackle obstacles since they participate in both task-space and social space activities (Sinha, Roga, Adams-Wiggins, & Hmelo-Silver, 2015). Ganyaupfu, (2013) asserts that CL provides more active thinking, therefore allowing higher achievements compared with the lecture technique. Similarly, CL is a more successful education method in the development of ideas and problem solving abilities essential to improved results in accounting (Wanza, 2014).

Learners who get a chance to be involved in collaborative learning and engage in argumentation show an increase in knowledge and ability to use reasoning in

accounting (Felton, Garcia-Mila, Villarroel, & Gilabert, 2015). However, variation in ways that learners choose to interact can also have negative implications both within current groups and on future individual performance (Marion, & Thorley, 2016). Thus, understanding how learners interact when solving problems in a group and exploring how reasoning is used in such settings may inform ways to implement peer discussion to generate high quality learning experiences and high achievement in accounting, (Repice, Sawyer, Hoglebe, Brown, Luesse, Gealy, & Frey, 2016; Leupen, 2020). In addition, adopting collaborative learning approach in the fields of teaching and learning, leads to a higher degree of satisfaction with the learning process (Mohammadjani & Tonkaboni, 2015).

Positive interdependence, based on collaborative learning, is the scenario whereby learners are accountable for the success of their colleagues in the group as well as their own success (Slavin, 2011). It shows that working for others has a positive impact and vice versa and working in small groups optimize the knowledge of all participants. This learning is done through sharing resources, mutual support and successful collaborative activities. Furthermore, as a design concept, positive interdependence may encourage cooperation through interdependent tasks, responsibilities and resources and hence allow joint engagement that leads to high achievement in accounting (Resta and Laferriere 2007).

Where there is positive interdependence, individual student scores in accounting depend on the group's accomplishment (Scager, Boonstra, Peeters, Vulperhorst and Wiegant, 2016). Every participant's effort is necessary and essential for reaching joint objectives, and each member is distinctive in their contribution, as resources, roles and duties are shared. DeFranco-Tommarello, Hiltz, Deek, Perez, & Keenan, (2003)

contend that having learners socialize in collaboration with other group members naturally make them gain more social confirmation by developing communication skills and result to high accomplishments in accounting. Moreover, collaborative learning with practical experiences, reflection, self-assessment and feedback can increase the confidence and interpersonal capacities of learners leading to high achievements in accounting. Interpersonal skills are often conceived to resolve conflicts based on leadership, talks, conversation, and discussions (Parker and Hackett 2012: Wooley, Chabris, Pentland, Hashmi & Malone, 2010). In a collaborative learning setting, successful learning takes place when there is adequate interaction between students (Sulaiman, 2018).

Interpersonal and small group interactions increase the level of confidence amongst group members which improves communication skills and conflict resolution in the event of disagreements. In collaborative learning groups, learners get high levels of social and interpersonal skills (IS) such as active listening, questionings and negotiation which result to high achievement in accounting, ((Killen, 2007). Ballatine and Larres, (2007) affirms that to achieve success in accounting through use of CL, learners are expected to exchange opinions, explain and teach each other and make presentations based on what has been learnt. In addition, students should promote effort by discussing and explaining to each other and demonstrate readiness to learn from peers. Learners should interact by performing various tasks assigned and share ideas for higher achievement in accounting (Johnson & Johnson, 2008). Collaborative learning is viewed as socio-cultural and mediating tools for the exchange of information and the support of the group's social interactions in learning activities (Mercer and Howe, 2012). It is therefore vital that learners are friendly, helpful and cooperative in

collaborative groups so as to achieve good results in accounting (Dzemidzic Kristiansen, Burner, & Johnsen, 2019).

1.2 Statement of the Problem

Business studies play a key role in economic growth and development. Learners have to perform well in the subject in order to qualify for various careers that would contribute to personal growth as well as development of the whole economy. However, Business Studies has been recording a declining performance in most of the day Secondary schools in Igembe Central Sub-county. The findings by Kenya National Examinations Council (KNEC) at National, County and Sub-county levels indicate low achievement by learners in the subject, making it an issue of concern by the business Studies teachers, educational officers as well as parents. Previous studies done indicate that the government has employed adequate Business Studies teachers in these schools and has provided relevant textbooks required by learners. However, teaching strategies applied by teachers in these schools are mostly teacher-centered, which has resulted to minimal usage of learner-centered approaches, like collaborative learning strategies.

Thirty percent of areas examined in Business Studies in national examinations are on accounting concepts, an area majorly covered at form three level. According to KNEC reports, accounting has been identified as the main area that students fail thereby leading to low achievement in Business Studies. Paying close attention and improving on instructional strategies applied by teachers in teaching and learning accounting concepts may improve achievement of learners in Business Studies. Therefore, this study aimed to establish influence of Collaborative-learning strategy on learner achievement in accounting in Secondary schools in Igembe Central Sub-county, Meru County, Kenya.

Table 1.1: KCSE Performance in Business Studies Examinations (2016-2020)

2016		2017		2018		2019		2020	
Mean	Mean	Dev	Mean	Dev	Mean	Dev	Mean	Dev	
6.531	6.042	-0.489	5.831	-0.211	5.432	-0.399	5.321	-0.111	

Source: Results analysis by QASO Igembe-Central Sub-county, Meru County, Kenya

1.3 Purpose of the Study

The purpose of this study is to determine influence of Collaborative Learning Strategy on learners' achievement in accounting in secondary schools in Igembe Central Sub-county, Kenya.

1.4 Objectives of the Study

1.4.1 The specific objectives of the study

- i) Determine influence of positive interdependence on learners' achievement in accounting
- ii) Examine influence of interpersonal skills on learners' achievement in accounting
- iii) Evaluate influence of promotive interaction on learner achievement in accounting

1.5 Research Questions of the Study

- i) To what extent does positive interdependence influence learner achievement in accounting?
- ii) What is the relationship between Interpersonal skills and learner achievement in accounting?

iii) To what extent does promotive interaction influence learner achievement in accounting?

1.6 Significance of the Study

Results from the study might be beneficial to Kenya Institute of Curriculum Development (KICD) in informing curriculum policies, review and development. The findings may also be useful to the subject teachers as such a strategy can make their teaching easier, by taking on the role of a facilitator as opposed to teacher to guide learners in various groups. Researchers may also benefit from the findings as they can use them as basis for undertaking further research. By use of collaborative learning strategy learners' too can improve on their learning outcomes or performance in accounting.

1.7 Limitations of the Study

One of this study's limitations was the difficulty in learners embracing a new learning technique, which in this case was collaborative learning. This however was controlled by training the learners on how to use such an approach in learning before it was implemented. The other limitation anticipated was in data collection stage where some participants could give false information. To avoid this confidentiality of information provided by participants for the study was guaranteed in order to make them feel free and give accurate information.

1.8 Delimitations of the Study

This study focused on assessing influence of collaborative learning strategy on learner achievement in accounting. The study applied to form three learners and was limited to

the subject teachers and the learners. The study was anchored on Kolb's Experiential Learning model and Solomon Four quasi experimental research design.

1.9 Basic Assumptions of the Study

The study made the following assumptions:

- i) Use of collaborative learning strategy in secondary schools can lead to high achievement in accounting.
- ii) Teachers and learners have skills on the use of collaborative learning strategy.
- iii) The learners will willingly participate in collaborative learning activities
- iv) The participants will provide accurate information on the topic under study.

1.10 Operational Definitions of Key Terms of the Study

Accounting Concepts:	Basic rules that function as the basis for recording business transactions. American Accounting Association (1966), generally accepted assumptions that assist accountants in the preparation of financial statements.
Action Substitutability:	Quality of being capable of exchange or interchange. Johnson & Johnson, (2005), the degree to which action of one student in the group replaces the activities of another student.
Character Inducibility:	Learner being able to influence others in the group by his/her ideas or being influenced by others' ideas in the group. Johnson & Johnson (2005), Openness to persuade and influence or be influenced by other people.
Collaborative Learning:	Process by which learners interact in small groups with the aim of making contributions to solve given tasks. Kalpana (2014), an arrangement involving learners with diverse skills working in groups and benefits derived meant for individual learners and the whole group.
Conflict Management:	Use of preferred strategies in handling disagreements that come within members in collaborative learning. Schellenberg, (1996), Use of right techniques in dealing with disagreements with the aim of reducing negative impact and enhancing positive group outcomes.
Decision-making:	Choosing from alternative based on quality and relevance. Liu, (2010) Identifying and choosing an optional course of action in meeting the demand of the situation.
Experiential Learning:	Acquisition of knowledge through experience. Kolb (1984), learning that combines experience, cognition & behavior.
Interpersonal skills:	Basic teamwork expertise. Mc connel (2004), Essential expertness required in dealing with & relating with other members in collaborative learning.
Learner Support:	Giving students assistance. Tait (2000), Making learners in collaborative learning feel appreciated and their contributions valued.

Learning Style:	A preferential way to gain knowledge from a student. Keefer, (1979). Way in which a learner interacts and responds with the learning process.
Positive Cathexis:	The emotional energy concentration on a single idea. Johnson & Johnson (2005), Psychological energy investment in objects other than oneself.
Positive Interdependence:	A situation where members in a group work together in Collaborative groups with the perception that success depends on the participation of all the members. Slavin (2011) Students are responsible for their own learning and achievement of other group members.
Problem Solving:	Process to discover solutions to complicated or tough questions. Ahiakwo, (2006), the ability, knowledge and logic, to determine the gap between a problem and a solution.
Promotive Interaction:	Engaging in discussions by sharing resources, ideas, and encouraging each other. Wandberg, Rohwer (2010), Act of students in collaborative groups that contribute to the achievement of one another and appreciate the success of others
Resource Sharing:	Companioning ideas and knowledge in collaborative learning. Owoko (2010), Passing knowledge & Skills of teachers & learners acquired through learning and experience.
Verbal Communication:	Act of passing information within members in collaborative learning. Keyton, (2011), Transmitting information and common understanding among members in collaborative learning.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This study reviewed the related literature in line with Variables-Collaborative learning strategy (Independent variable) and learner achievement (dependent variable). In other words, it focused on influence of collaborative learning strategy on learner achievement in accounting and made references to studies that have been done in the past concerning the study. The section also provides history of CL and theories upon which the study is based on.

2.1 Evolution of Collaborative Learning

Collaborative Learning is an effective learning technique in secondary schools. In the 1960s, the most prevailing techniques were individualistic and competitive learning in comparison with collaborative learning. Using these traditional techniques of teaching, lessons were bound to demotivate learners (Yassin, & Razak, 2017). Collaborative learning as a student-centered learning strategy was therefore deemed necessary in motivating and creating learners' interest towards the learning process. This would be done by having learners join in small groups and discuss with each other as they worked on completing tasks or solving problems (Machado and Coimbra, 2015). Collaborative learning in the 1st century was regarded as peer work. In the 18th century, schools were opened and students were taught about peer learning groups. This advanced in the United States in the early 19th century, as additional branches were created where students could be taught collaborative learning.

Colonel Francis Parker in 1875-1880 called for group learning and was able to get thousands of people into secondary schools to see the application of peer learning. John Dewey (1963) also helped contribute to peer learning by applying peer-learning methods in his project that towards the end of the 19th century gained a high reputation at American schools (John *et al.*, 1991). By 20th century, researchers had begun comparing individualistic, competitive and peer learning. Schools were integrated and social inclusion in the classroom was required. The solution was to include peer work to enhance the performance of the poor students at schools (Olsen & Kagan, 1992). Researchers began working on collaborative learning to improve learning techniques used in schools in the 1970s (Slavin, 2011). In the second half of the 20th century CL was given a new lease of life when studies showed that students learnt quicker and remembered more when they were teaching and as learning partners rather than simply being informed by the teachers.

2.1.1 Underpinnings of Collaborative learning

Collaborative learning as one of effective learning strategies has had the support of many theoretical foundations. The study was guided by four main theoretical perspectives on CL and have provided explanations on the effective learning experienced by learners who adopt CL strategy in their learning process. These theoretical roots are discussed under:

Cognitive development theory

This theory is based on theories of Jean Piaget (1959) and Lev Vygotsky (1978;1986), which emphasized need for peer interaction experienced in CL. During CL, learners engage in discussions and are able to solve any arising conflicts as well as improve on

their reasoning. According to Piaget, learners acquire knowledge through social interaction with others. Vygotsky stated that knowledge is gained socially and through collaborative learning. Successful learning takes place in which students may share ideas and improve one another. The zone of proximal development is a fundamental notion, which is the zone between what a learner can achieve and what the learner can achieve when working with more skilled peers. Unless the students work together, Vygotsky believes they will not develop intellectually and therefore the time spent by students individually should be reduced. In addition, cognitive restructuring theorists argue that students can only retain and integrate into an existing cognitive structure by cognitively rehearsing and reorganizing learning materials (Wittrock, 1990)

Social Cognitive Theory

Social cognitive theory by Bandura, 2000; Lave & Wenger, (1991) argues that collaboration is a common conviction of group members to achieve the intended outcomes, share beliefs of group members in their joined energy to yield desired results. Individual students' work together to achieve what they cannot do alone. Ideally, the learner will rehearse knowledge cognitively and restructure and explain to his classmates the content they acquired. When a learner structures information and explains concepts to others, he or she is able to remember concepts better than when doing individual learning (Wittrock, 1990). Situated cognition theory by (Suchman, 1987) is an extension of social cognitive theory that holds that both the physical and social surroundings have a strong impact on critical thinking. The social environment is the more significant, when it includes both the immediate group and the social groups. Members of collaborative organizations acquire shared cognitions through the social environment, which are the property of the group rather than any one individual

member. Collaboration entails developing and maintaining a shared understanding of the subject at hand. Members of a group grow to understand one another and develop a shared grasp of topics through interaction. It is the collaborative search for a solution to a problem that leads to a comprehension of the concepts being learned.

Motivational theory

In a Collaborative learning classroom, learners generate a reciprocal internal source of positive reinforcement for one another, because of their positive interconnectedness (Baloche, 1998; Dishon & O'Leary, 1994; Dörnyei, 1997; Johnson et al., 1998; Kagan, 1994; Slavin, 1995, 2000) Motivational approaches on CL are divided into three categories: goal structures, reward structures, and social dynamics (Dörnyei, 1997; Johnson et al., 1998; Slavin, 1995, 2000). Collaborative goal frameworks create a situation in which group members can only achieve their own personal objectives if the group succeeds (Slavin, 1995). As a result, group members seek to assist one another and urge one another to put up their best effort. The reward structure of CL is primarily connected to group reward, which implies that students are evaluated as a group based on group performance or the aggregate of individual performances. Including external motivations for students to cooperate can lead to internal desire to work in groups (Dishon & O'Leary, 1994).

Behavioral Learning Theory

Behavioral learning theorists emphasize the importance of group external reinforcers and extrinsic incentives in fostering desired outcomes. It is expected that activities followed by extrinsic incentives will be repeated and enhanced, and collaborative efforts are often driven by extrinsic motivation to attain group rewards. According to

researchers (Boud, Cohen, and Sampson, 2001; Brown and Thomson, 2000; Gillies, 2007; Slavin, 1987, 1995, 2000), extrinsic incentives and feedback should be given attention so that learners are fully aware of what actions are to be rewarded and may therefore make correct changes. The behavioral learning theory stresses the relevance of group contingencies (Slavin, 1987, 2000), which implies that groups of students are rewarded, based on the conduct of all group members or, on rare occasions, a single or specific member.

2.2 Collaborative learning, positive interdependence and learner achievement in accounting

Positive interdependence is achieved where learners recognize the positive influence of working with others and vice-versa and work in small groups to optimize all members' development. This learning takes place by sharing resources, supporting one other and celebrating common accomplishment. Learners are accountable to own learning and success as well as the achievement of colleagues in the group. Slavin (2011) carried out a study on the effects of collaborative study technique on the academic performance and the retention of information by learners in Vietnam using quasi- experimental research methodology to evaluate how academic achievement and the retention of knowledge are influenced by the learning strategy. The sample size used was 110 learners and the results of the study showed that students who engaged in collaborative learning obtained considerably higher scores and had maintained their knowledge of learning topics than students who had been taught through lecture method. The study emphasized effectiveness of positive interdependence in collaborative learning method since it may lead to success in accounting. Positive interdependence is established such

that the individual degrees of students in accounting rely on how the entire group performs.

In addition, in The Netherlands a study on collaborative learning in higher education by Scager, Boonstra, Peeters, Vulperhorst and Wiegant (2016); evoking positive interdependence, used quantitative and qualitative data collection approaches and employed five different sciences undergraduate students by use of a small sample. The research findings showed that students' autonomy and self-regulation, together with a demanding open and complicated group work, requiring the students to rely on one other in producing something new and original, were elements that evoked effective cooperation. This implies every member need and has to make efforts to attain his or her joint objective. Each participant's contribution is unique since their resources, positions and tasks are shared leading to a high level of achievement. As a design principle, positive interdependence may encourage cooperation through the design of interconnected activities, functions, and resources and so allow shared interaction which will lead to good performance in accounting (Resta & Laferriere, 2007). However, interdependence is sometimes inconclusive, if it lacks external motivation in terms of rewards. Positive interdependence makes the learners assume the burden on task assigned to them and therefore see the need for individual accountability in achieving the group's goals in accounting.

2.2.1 Collaborative learning, positive interdependence & action substitutability in accounting

Within a collaborative situation, which is characterized by positive interdependence, if one member is unable to perform a particular task, group members are required to boost their motivation and work harder because their activities can lead to mutual success to

replace the activities of members of the group who cannot do this specific activity. However, wrong activities of a member of the group do not supersede one's own actions; instead, one must do more to make up for others' wrong action. Work by Deutsch (1962), in New York on the effects of instruction in cooperative learning and conflict resolution at alternative high school was performed and it utilized quasi-experimental methodology to gather data for study. The study was however not clear on all tools used for the study. The study's findings revealed that when students participate in collaborative learning, they may support and remain in groups since individual grades are based on the performance of the entire team. They also have enhanced social support, better relations, stronger self-esteem and higher academic performance (Slavin, 2014).

Substitutability in collaborative learning consequently means the degree to which one group member's activities replace the actions of one other member in the group in order to improve each other and to achieve accounting objectives (Cohen & Lotan, 2014). Additionally, Substitutability explain how self-interest is increased to shared interest and when students become interdependent of new objectives incentives are generated. This joint effort that yields high achievement in accounting is rendered incomplete due to some members in the group not being able to complete it. Therefore, others feel the pressure and the need to have it completed as there exists the positive interdependence among the group members and they will not be comfortable until they take that responsibility of having the work done. This is likely to lead to high achievement in accounting.

2.2.2 Collaborative Learning, positive Interdependence& character inducibility in accounting

Within a collaborative learning environment, group members easily influence each other to get involved in activities that encourage or lead to achievement of the set objectives for the group. Inducibility is the frankness among the members in collaborative working groups to being impacted and to impacting others in the group (Cohen & Lotan, 2014). In addition, inducibility is a psychological foundation for directing efforts into an organized action system, in order to concentrate group attention on achieving the defined objectives and to maintain efficiency of collaborative system. In learning of accounting concepts, it is evident that group influence takes place more in Collaborative learning groups than in individualized learning making the learners to get a clear view of what they are doing and therefore achieve high grades in accounting.

According to Johnson and Johnson (2015), most of the impacting approaches used within the Collaborative situations to a big extent promote the learner's understanding of the subject leading to greater achievement for the whole group. In CL learners are therefore encouraged to appreciate each other's' contribution and be willing to accept any positive influence coming from the group members in order to achieve success in accounting, as impacting actions among the members in the group leads to high achievement than are influence actions by the members not in the group (Gillies 2015).

2.2.3 Collaborative learning, positive interdependence and positive cathexis in accounting

Johnson & Johnson (2009), Cathexis in Collaborative Learning is the backing of intellectual vibrancy in things outside of oneself such as family, job and confidants. For

a learner in Collaborative learning group to exist and feel comfortable and free to make contribution and get involved in group's tasks, he or she has to have his/her energy cathected positively towards the group members. With the element of positive interdependence among the group members, the learners' attitude is likely to be positive and this will result to high achievement in accounting.

Collaborative learning situations that embrace positive interdependence, beneficial activities are cathected in a positive way, while ineffective actions are cathected negatively (Johnson & Johnson, 2019). This means that learners will be more interested and have a positive attitude towards the group discussion as they are able to share ideas, perform tasks together and therefore benefit from each other. Cathexis creates an emotional interdependence among the members in the group which is key to enabling the learners create a bond and work towards achieving high grades in accounting (Neumann & Strack, 2000).

2.3 Collaborative learning, Interpersonal skills and learner achievement in accounting

Collaborative learning with practicable possibilities, reflection, self- assessment and feedback may increase the trust and competence of learners leading to success in accounting. A study by Parker & Hacket, (2012) in Nigeria on effects of cooperative learning on mathematics achievement in pupils with attention deficit utilized a sample of 90 participants; simple random selection and quasi-experimental design were used in the study. However, the sample size was limited, and the findings indicated that through collaborative learning, learners improved in mathematics competency skills. Interpersonal skills, consensus in decision-making, leadership skills, dialogue and communication skills, team building skills, and empathical skills are typically framed

in terms of collaborative learning leading to great achievement in accounting. The socialization of learners in collaborative learning is stepped up via the acquisition of communication skills, and the individual is able to work well with the other members of the group. In addition, efficient learning takes place in a collaborative study setting when a correct relationship is established between learners.

Suleiman (2018), conducted a study in Malaysia, on effect of collaborative learning techniques on students' reading comprehension viewed from different text types. The study utilized both descriptive and inferential statistics to evaluate data. The study however used post-test only comparison group which was not adequate to explain the significant effect revealed after adopting the strategy. Pre-tests would have been used as well to bring out a clear difference with the post-tests results to confirm the effectiveness of the strategy. The study showed that the approach had an important impact on learners' ability to read. In collaborative groups, students gain social and interpersonal skills (IS) such as careful listening, questioning and negotiation, which enable them to work together efficiently in the group resulting to high achievement in accounting. In addition, each member acquires insight into how the group will be managed, how decisions will be made, and how disputes between members will be resolved. Through role play and modelling in groups, learners can acquire effective interpersonal skills that can enhance their achievement in accounting.

2.3.1 Collaborative learning, interpersonal skills and verbal communication in accounting

Collaborative learning, compared with individualistic or competitive learning enables students to participate and work together to improve their personal and social abilities to attain a high level of achievement in accounting (Ballantine & Larres, 2007).

According to Keyton, (2011), communication in Collaborative learning is the act of transmitting knowledge and shared understanding from one person to another or between individuals within a group. It's a social skill acquired through collaborative learning and helps learners in achieving their objectives resulting to successful group performance in accounting. Communication among teachers and learners in collaborative learning has an important role of creating educational interactions, which may be important to achieving group goals in accounting (Garrison, Anderson, & Archer, 2010). Moreover, efficient communication in education demands collaborative activities that increase learning, which promote positive interdependence and high order thinking leading to high achievement in accounting (Littleton & Mercer, 2013). Discussion is therefore a democratic process, and every student has the opportunity to voice his or her opinion. The learning process cannot take place without excellent communication in collaborative learning and someone with good communications skills may influence other learners and efficient communication methods lead to high performance in accounting.

2.3.2 Collaborative learning, interpersonal skills and decision making in accounting

Decision making in collaborative learning is the making up of one's mind about an opinion or judgment reached after considering all the ideas shared by the group members and with a lot of mental activity, choosing between alternatives (Mekuria, 2009). By having members participate in decision making in collaborative learning, the group is able to identify creative and innovative solutions to the problems. This can lead to high achievement in accounting. In order to enhance the decision-making capacity of students, it is necessary not only to focus on the results of their

conversations, but also how students make decisions, such as how they assess the available information and take it into consideration individually Liu, (2010). Collaborative decision-making skills in Business Education help learners to appropriating knowledge leading to high achievement in accounting (Evagorou *et al.*, 2012). Additionally, if learners want to succeed in obtaining a decent job, they must begin the process of professional decision-making early and engage in activities that increase their employability.

2.3.3 Collaborative learning, interpersonal skills and conflict management in accounting

According to Oakley *et al.*, (2004). The most typical reason for a group dispute is when team members refuse to participate or even attempt to sabotage the task or are unable to complete any portion of it. However, conflicts can be avoided by preparing and signing a list of the basic rules that all members agree to obey. These instructions would help curb the problem of time wastage, and lack of commitment or contribution by some of the group members, Adherence to these rules would reduce issues of conflicts within the group and lead to high achievement in accounting. Group work has a variety of risks, one of which being disagreements among group members. Payne *et al.*, (2005) identified three types of conflict amongst group members, which are as follows: Issues about how to distribute marks properly, time commitment, free riding, and interpersonal conflicts. However, it is vital to create disputes amongst group members since students must learn how to deal with them and have the group operate successfully to reach their goals (Payne, Sumter and Monk-Turner, 2005). The main strength of group work is the development of conflict resolution capabilities which assist to prepare students for their job as professionals to a large extent if they are able to deal with problems

2.4 Collaborative learning, Promotive interaction and learner achievement in accounting

In collaborative learning, learners promote each other's work through conversations and explanations and show their readiness to throw in their lot with their peers. Learners should interact with each other as they perform various tasks assigned to them and share ideas for higher achievement in accounting (Johnson & Johnson, 2008). Learners are expected to exchange opinions, explain and teach each other and make presentations on what has been learnt. Mercer and Howe, (2012) carried out a study in Hong Kong on *A new perspective in critical thinking*. The study adopted mixed methods in data collection and the findings revealed that collaborative group work helped develop students' critical thinking. Collaborative learning is considered a social-cultural resource and media tool whereby students' capacity to reason critically requires sharing information and supporting the social interaction of the group. It is therefore important that learners are friendly, helpful and cooperative in collaborative groups so as to achieve good results in accounting.

Dzemidzic Kristiansen, Burner and Johnsen (2019) carried a study in Norway to explore the prospects of students and teachers promoting face-to-face contact in collaborative learning. Quantitative and qualitative methods of collecting data were adopted using a sample of two schools. The level/class for these learners was however not indicated. The findings revealed there was positive believes on influence of collaborative activities on small groups. That means that the quality of interaction depends on the size and efficiency of the group in the collaboration of students. Therefore, small groups assist students develop cooperative learning qualifications which lead to good performance in accounting. The degree of intellect of all individual

students inside the group as well as the surroundings also depends on the quality of the group interaction.

2.4.1 Collaborative learning, promotive interaction and resource sharing in accounting

Collaborative learning provides learners with the resources and capabilities of one another, obtaining information from one another, evaluating ideas from another and monitoring one another's work, which leads to excellent performance in accounting (Chiu, et al, 2008). According to Owoko, (2010), the term resource means instructional technique, materials and time accessible to instructors, learner knowledge and skills. Collaborative learning may be established inside the learning groups, in which members engage with each other via the exchange of ideas and experiences which lead to excellent accounting performance. Group activities in collaborative learning enable learners to save on time and discover deeper meaning in the content and improve thinking skills resulting to high achievement. If the learning environment is conducive, learners are able to share resources, support and contribute ideas in solving problems leading to high achievement in accounting (Slavin, 2011). In concurrence, Acikalim (2014) noted that use of discussion in learning encourages high levels of interaction and bonding among learners enabling them to be free with each other and share all resources available effectively.

2.4.2 Collaborative learning, Promotive interaction and problem solving in accounting

Problem solving (PS) is one of the cores 21st century skill set out by Kay (2010) and well attained through collaborative learning leading to high achievement in accounting.

Through collaborative learning, the group members are able to find out the many methods of addressing issues and by sticking to the agreed methodology, each group member may help solve the problem by increasing its shared significance and information (Flood, 2015; Kong, 2014). Furthermore, problem solving exercises increase critical thinking that promote performance in accounting as learners can critically justify and resolve problems arising and work on tasks together responsibly (Howard et al., 2015; Pugach & Peck, 2016). Problem solving develops cognitive abilities that help Business studies learners to understand the accounting principles as well as emphasizes application of mathematical knowledge and high level of creativity resulting to high achievement by learners in accounting.

2.4.3 Collaborative learning, Promotive interaction and learner support in accounting

During collaborative learning, learners work together and help each other in understanding the concepts, create products and solve problems in accounting (Laal and Ghodsi, 2012). Moreover, in collaborative process, students support and promote one others' effort to achieve group goals, and group dynamics (Johnson and Johnson et al 2014). Moreover, collaborative learning, with appropriate interaction between students, may generate a favorable atmosphere in which learners assist each other and lead to a high level of achievement in accounting. In small groups participants are more focused on the work assigned by supporting other group members and motivating individuals. Group discussion should create a feeling of cohesiveness and trust amongst participants and assist them improve their interpersonal skills and confidence to provide individual ideas and support within a group environment. In a well-organized group discussion, many positions will be accepted, well-supported ideas will be respectfully respected

and problems resolved. It will encourage information sharing and all members will get insight into others' ideas before reaching a consensus on a particular task.

2.5 Theoretical Framework

2.5.1 Kolb's Experiential Learning Style Model

Kolb's Experiential Learning Theory (ELT) guided the design of this study in determining the influence of collaborative learning strategy on learner achievement in accounting. Kolb's ELT was developed by Kolb in 1984. It operates on two levels: a four-phase learning cycle and four different ways of learning. The central of the four-phase Kolb model is a basic description of a learning cycle, which demonstrates how experience is converted into ideas, which are also utilized for active exploration and the selection of new experiences. The four phases are referred to in Kolb as concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE), (Stocker, Burmeister & Allen, 2014). This approach was chosen to direct the study since currently students do not want to study in a static setting in which information is passive. Learners desire to be active partners in their learning process.

2.5.2 Characteristics of ELT

- i) Learning is best understood as a process, not as results
- ii) All learning is re-studying
- iii) Learning calls for conflict resolution between dialectically opposing forms of world adaption.
- iv) Learning is an integral adaptive process

v) Learning comes through synergetic human-environment interactions.

vi) Learning is the process of knowledge building.

According to Poorer Cullen (2014), ELT has always been centered on the individual student, but may also be utilized in collaborative learning. The cycle can be entered at any time; however, it is important to follow the steps in sequence. This means that the learning cycle offers feedback on new measures and assessments of the implications of this activity. The experiential learning theory, as its name implies, confirms how important experiential activities are, for example the utilization of collaborative learning method in teaching and learning accounting.

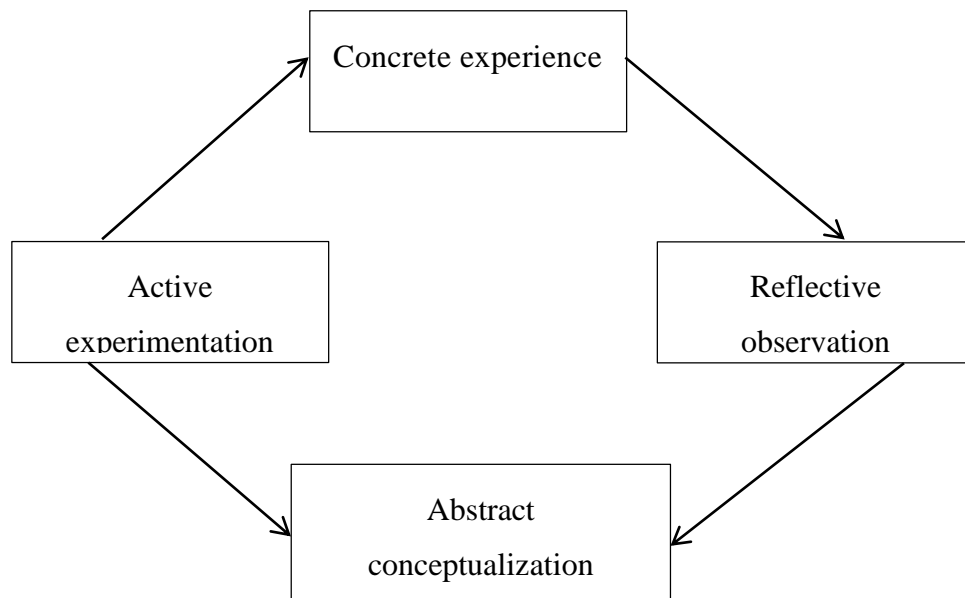


Figure 2.1: Kolb's Experiential Learning Theory

The theory implies that specific experiences help students to join and play their part in a collective activity. This environment gives a framework to discuss, in which students reflect on this experience, draw conclusions and decide on future conduct. After debriefing, students can imagine and explore new behaviors that apply to future real events and so complete the cycle. According to Kolb, effective learning is seen to take place after going through the four stages. Kolb (1984) proposes that learners develop a specific preference for learning. Students may adopt different ways of learning in different settings, but they tend to favor certain learning behaviors. Kolb recognized four types of learning, each linked with a particular manner of problem solving. Divergers perceive things in various ways and rely significantly on brainstorming and idea creation and they can build theoretical models. Assimilators are able to build theoretical models and employ inductive reasoning. Hypothetical deductive reasoning is strongly used for Convergents. Plans and experiments are carried out by accommodators and adapted to present conditions.

2.6 Conceptual Framework

Collaborative learning strategy is a learner centered approach intended to give learners a chance to study as a group sharing ideas with others and working on tasks. In instances where collaborative learning strategy is adopted effectively, learners improve on problem solving skills and ability to think critically. This enable learners record transactions and balance ledger accounts accurately leading to enhanced achievement in accounting. Positive interdependence, interpersonal skills and promotive interaction have a positive influence on learners who engage in collaborative learning activities as they study accounting. Figure 2.2 shows the relationship between Collaborative learning and learner achievement in accounting.

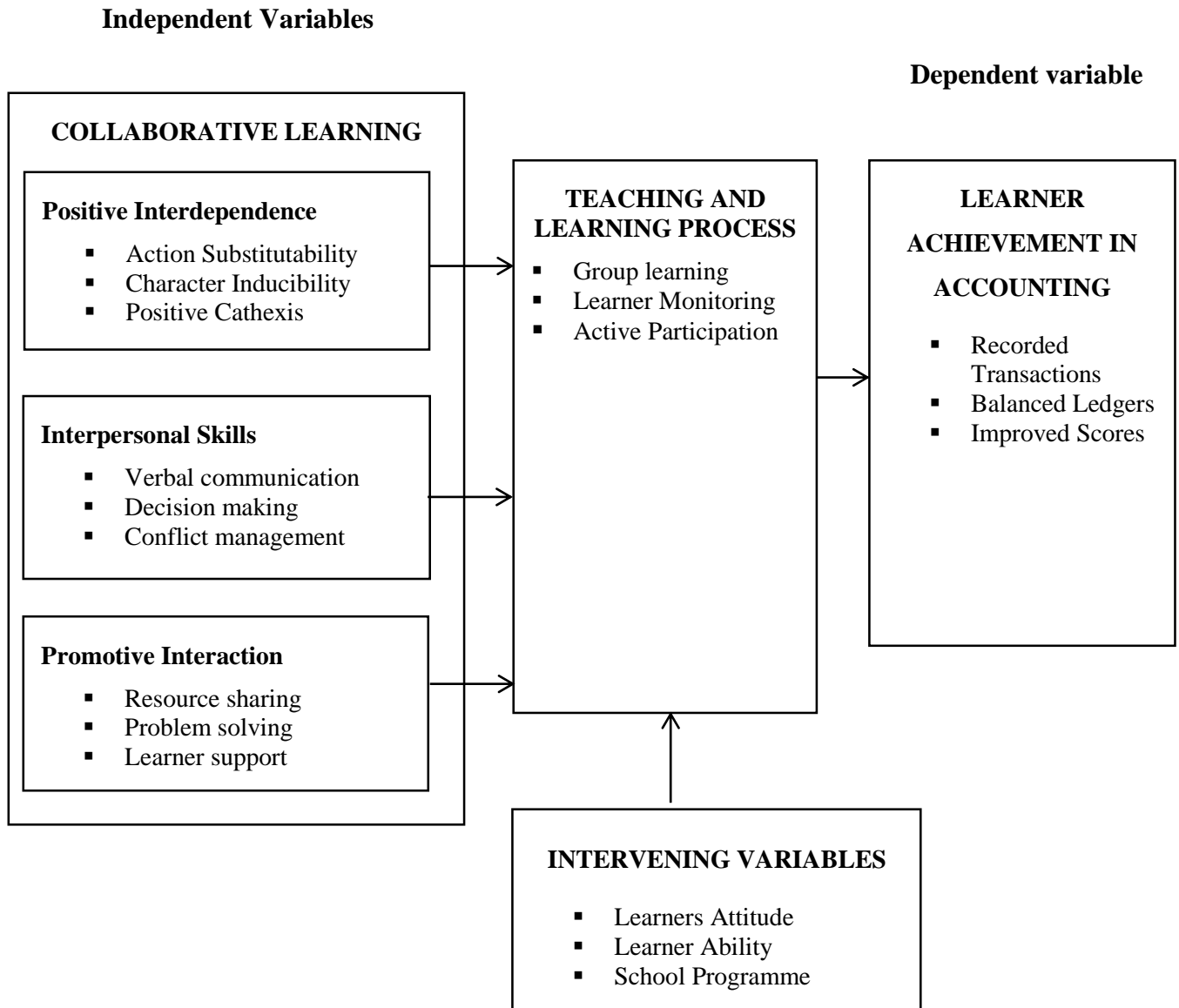


Figure 2.2: Conceptual Framework

Effective adoption of Collaborative learning strategy enable learners’ exhibit positive interdependence through action substitutability, character inducibility and positive cathexis. Actions of each learner can substitute actions of another learner in the group, learners can influence each other as they study collaboratively and each learner is expected to direct his or her efforts towards attaining groups, goals. Learners also utilize interpersonal abilities like verbal communication, manage conflicts and make decisions within the group as they engage in collaborative learning. Communication skills

acquired, decision making skills as well as conflict management skills equip learners with knowledge on how to handle tasks in the group as well as embrace the spirit of working together. This enable them appreciate each other's ideas. Through the group interactions, they are able to share resources, solve problems in accounting and support each other in the process of learning.

The process of teaching and learning which involves active participation of learners as teachers do monitoring of learners engaged in different groups as they handle tasks in accounting, achievement is enhanced whereby learners are able to record transactions and balance ledger accounts accurately and improve on scores in accounting. However, success in use of collaborative learning strategy is likely to be influenced by variables such as learner attitude, learner ability or intelligence levels and the extent to which the school programme is able to accommodate and support Collaborative-learning strategy. This can be regulated by ensuring weak learners are mixed with intelligent peers and school programme adjusted to accommodate the activity. Learners can also be informed on the benefits of the learning strategy and encouraged to adopt it so as to attain enhanced achievement in accounting.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The section presents research design, target population, sampling technique, sample size and instruments used in collecting data. It contains validity of research instruments, ethical consideration and ends with a discussion on how data was analyzed for the study.

3.1 Research Design

The study used Solomon's Four Group Design, established in 1949 by Richard Solomon. The design has been used to overcome the issue of pre-test sensitization on the treatment. Four groups of learners were used for the study and had four different experiences.

3.1.1 Pre-Test, Treatment, Post-Test (E1)

This was Experimental Group 1 (E1). The group did a pre-test for achievement test. The test was administered before learners were taught the topic ledgers. After the pre-test, they were engaged in Collaborative learning as they studied ledgers. The researcher and Business studies teacher observed them as they engaged in leaning ledgers through collaborative learning strategy. This took three weeks after which learners did a post-test for the same Business Studies achievement test they did at pre-test level.

3.1.2 Pre-Test, No Treatment, Post-Test (C1)

This was Control group 1 (C1). This group did the same pre-test as E1 group on the same day, for Business studies achievement test. The group also did the achievement test before they were taught ledgers. They used conventional/normal methods in learning ledgers and after three weeks, they did a post-test on the topic ledgers, same achievement test as the pre-test. In order to determine the influence of collaborative studying method on students' accomplishment in accounting, the post-testing results in this control group were compared to post-test scores in the experimental group.

3.1.3 Treatment, Post-Test (C2)

This was Experimental group 2. This group had no pre-test but had learners engage in Collaborative learning as they studied ledgers. The learners were observed as they studied in groups. They did a similar post-test with other groups after three weeks. The post-test results were compared with those for the post-test Group 1. This was carried out to verify whether post-test results for group 1 were influenced by administration of pre-test.

3.1.4 No Treatment, Post-Test (C2)

This was Control group 2. It had no pre-test or the experiment, but had a similar post-test with the other three groups. For this group, the post-test scores were compared with those for the control group 1. This was performed to examine if the pre-test had an influence upon the control group 2 post-test scores. Solomon four-group approach was designed to solve the pre-test sensitization problem. Pretest sensitization takes place if participants' results are influenced by the administration of a pretest. The key element of Solomon four-group design is the random assignment of participants to either receive

or not receive pre-test and then allocated randomly to either a treatment or comparison group. Afterwards all individuals are tested (post-test). This technique allows researchers to gain the benefits of employing a pretest and also permits pre-test sensitization assessments.

3.2 Target Population

Population refers to the whole set of people, events, elements, objects or things with similar common features. The results from the target population are derived at and aggregated into a study, (Sekaran and Bougie, 2013). In this study, the target population comprised of 36 public Secondary schools in Igembe central Sub-county, 36 principals, 45 Business Studies teachers and 1850 form three Business Studies students.

Table 3.1: Target Population

Respondents	Population
Principals	36
Teachers	45
Learners	1850

3.3 Sample Size and Sampling Procedures

Gathered information from the sample was analyzed to generalize on the entire population. The study used purposive sampling technique to sample the schools. The study employed Solomon four group research design with a sample size of four schools. Use of purposive sampling technique enabled the researcher to select schools, which were far apart from each other hence preventing contamination of results. Only one form three class was selected for the study, from each participating school. For a school that was likely to have more than one form three Business Studies class, due to ethical

considerations, all classes were taught in the same way, and then simple random sampling was utilized to select one class that generated data for the study. The survey included four administrators, six business studies teachers and 141 form three Business Studies students.

Table 3.2: Sample Size for Learners

Group	Sample Size
E1	40
C1	38
E2	41
C2	42
Total	161

Table 3.3: Sample Size for Teachers and Principals

Respondents	Sample size
Business studies teachers	6
Principals	4

3.4 Pilot Testing

3.4.1 Validity of Instruments

Validity is a measure that determines how well an instrument accomplishes its goal. According to Creswell, (2009); Orodho (2009b, 2012), ‘a valid study is one in which the findings can be generalized to subjects and situations other than the specific ones which have been studied. This is ascertained through scrutiny and careful designing of items of the tools with focus on research objectives (Creswell, 2014). The validity of the tools was thus determined by submitting the observation guide, questionnaires, achievement tests, and interview schedule to a group of experts who examined the

instruments' questions and statements and determined their relation to the study goals in each sub-section. Solomon four-group design was used to analyze the effects of the experimental treatment in comparison with the control treatment, the effect of the pre-test against no pre-tests and the interactions between the pre-test and the treatment conditions, with a view to obtaining high internal validity. Both construct and content validity were used in this study. To ensure construct validity, the questionnaire was separated into multiple sections, each of which assessed information for a distinct goal, ensuring that the information assessed was closely related to the study's conceptual framework. The questionnaires were also subjected to a rigorous scrutiny by supervisors in charge of proposal development to ensure content validity. Furthermore, the validity of the responses was tested statistically using Kaiser-Meyer-Olkin (KMO), which was used to establish whether the responses were valid based on their values. The value of KMO was greater than .5 for a data set to be regarded as valid and suitable for statistical analysis (Field, 2013). For both the teachers' and learners' questionnaires, the findings of the KMO and Bartlett's Test of Sphericity (significance) was computed and presented as in Table 3.4.

Table 3.4: Validity Test on Questionnaires

Variable	KMO	Significance
Validity Test on Teachers' Questionnaire		
Collaborative Learning	.701	.000
Positive Interdependence	.811	.000
Interpersonal Skills	.641	.000
Promotive Interaction	.555	.000
Validity Test on Learners' Questionnaire		
Collaborative Learning	.608	.000
Positive Interdependence	.891	.000
Interpersonal Skills	.544	.000
Promotive Interaction	.823	.000

Source: Field Data, 2021

Results in Table 3.4 indicates that the KMO statistic for all variables was above 0.5 with critical level of significance, which was set at 0.5 (Field, 2013). Besides the KMO test, the sphericity test of Bartlett was significant (0.00, at $p < .05$) for all the variables of the study. These results provided an excellent confirmation of the study variables for further statistical analyses.

Validity Test on Observation Schedule

For validity of constructs and content, the observation schedule was segmented into many portions to ensure that each component evaluates information for a distinct indicator. The first part of the observation schedule assessed *Positive Interdependence* (Action substitutability, Positive cathexis, & Character inducibility) for a period of between 0-20 minutes, the second part assessed *Interpersonal Skills* (Decision making, Conflict management & Verbal communication) for a period of between 0-20 minutes, the third part of the schedule assessed *Promotive Interaction* (learner support, Problem solving & Resource sharing) for a period of between 0-20 minutes, the fourth part

assessed *Positive Interdependence* (Action substitutability, Positive cathexis & Character inducibility) for a period of between 20-40 minutes, the fifth part assessed *Interpersonal Skills* (Decision making, Conflict management & Verbal communication) for a period of between 20-40 minutes, while the sixth part assessed *Promotive interaction* (Resource sharing, Problem solving and Learner support) for a period of 20-40 minutes. This was done with the soul aim being to ensure that the information being assessed closely ties to the study variables.

Kaiser-Meyer-Olkin (KMO) was utilized to determine whether responses generated from the observation schedule were valid based on their values. The KMO value was greater than 0.5, for variables of study to be considered legitimate and adequate for statistical analysis (Field, 2013). Findings of KMO and Bartlett's sphericity test (significance) was computed as in Table 3.5

Table 3.5: Validity Test on observation schedule

Indicator	KMO	Significance
Positive Interdependence (0-20 Min)	.541	.000
Interpersonal Skills (0-20 Min)	.871	.000
Promotive Interaction (0-20Min)	.667	.000
Positive Interdependence (20-40 Min)	.613	.000
Interpersonal Skills (20-40 Min)	.579	.000
Promotive Interaction (20-40Min)	.811	.000

Source: Field Data, 2021

Findings in Table 3.5 shows KMO statistics for the tree indicators measured at different time intervals (Positive Interdependence (0-20 Min), Interpersonal Skills (0-20 min), Promotive Interaction (0-20Min), Positive Interdependence (20-40 Min), Interpersonal Skills (20-40 Min) and Promotive Interaction (20-40Min) were greater than .5 which is the critical significance level of the test set at .5 which was regarded as high (Field,

2013). In addition, Bartlett's Test of sphericity and KMO Test was significant for the three dimensions (.000, at $p < 0.05$). These results provided an excellent confirmation of the indicators contained in an observational schedule for additional statistical analysis.

Piloting for Interview Schedule

Piloting for interview schedule gave the researcher criteria for selecting eligible participants and a chance to review questions concerning the interview. Piloting for interviews is a vital and useful part in qualitative research, as it highlights the main study. Castillo- Montoya's (2016) discovered that interview protocols may be reinforced by piloting interviews to determine if the interview design fails or constraints permitted required to modify the major study. Majid, Othman, Mohamad, Lim and Yusof (2017) argues that piloting the questions of the interview is helpful and that the interview guide should be adjusted before commencing on process of data collection. The interview guide was validated by engaging experts who scrutinized and reviewed the data interview schedule of the study. The review comments of the experts were used to improve the validity of the interview guide by altering it adequately before the final data collection exercise was conducted.

In the interview, open-ended questions guided the broad information on collaborative learning techniques. The researcher focused on ensuring that interview questions addressed so as to collect data on collaborative management in the field of education and learning accounting. This technique was designed to make the interview questions more effective and to ensure their importance in achieving the study objective (Castillo, 2016). The interview questions were emailed for expert reviews. The experts examined the language, phrasing and relevancy of the interview questions. The purpose of the

pilot study was to assess the adequacy of the question in the interview and to provide early recommendations about the viability of the research. In addition, the researcher learnt and established a relationship with information providers through detailed, semi-structured interviews. Most importantly, the experts' advice helped researchers to master the skills of interviewing. Therefore, the researcher adapted interview questions suitably on the basis of the replies and the review comments from the experts in order to validate instrument of the study.

3.4.2 Reliability of instruments

Reliability refers to the coherence of the measurements achieved, how consistent they are from one instrument administration to another (Taber, 2013). Reliable findings were consistently achieved when information was collected with more than one trial of samples from the same population. Following the pilot study, the Social Sciences Statistics Package (SPSS) was utilized to develop a reliability coefficient for the questionnaire, interviewing schedule for the principal as well as the student observations guide. The internal consistency of the study instrument was evaluated using Cronbach's Alpha. Reliability level of 0.70 is authorized to be adequate for prediction tests or assumption of construct measurements (Shemwell, Chase, & Schwartz, 2015). Consequently, the research values of 0.7 as an acceptable criterion. In other words, numbers over 0.7 showed dependability while values below showed that the research tool was not reliable. In this study, the three aspects of Cronbach alpha in the questionnaire were computed as a correlation coefficient for two sets of data. The reliability was determined using the alpha formula of Cronbach by use of SPSS. The results of reliability test were presented in Table 3.6.

Table 3.6: Reliability Test Results on Teachers' Questionnaire

Variable	Number of Items	$\alpha > 0.7$	Comments
Collaborative Learning	3	0.801	Reliable
Positive Interdependence	9	0.766	Reliable
Interpersonal Skills	9	0.772	Reliable
Promotive Interaction	9	0.761	Reliable

Source: Field Data, 2021

Findings in Table 3.6 depicts that Cronbach's alpha for all the study independent variables were greater than the minimum acceptable value of 0.7. Based on findings, the variable Collaborative Learning had a value of $0.801 > 0.7$, variable positive interdependence with nine items had a cronbach value of $0.766 > 0.7$, variable interpersonal skills with nine items had a cronbach value of $0.772 > 0.7$ and finally variable promotive interaction with nine items as well had a cronbach's alpha of $0.761 > 0.7$. On the basis of these results, all the study variables exhibited strong levels of internal consistency and thus were considered reliable and suitable for data collection. The researcher also conducted pilot testing on the learners' questionnaire which was meant to collect data on influence of Collaborative learning (CL) strategy on learner achievement in Accounting.

Table 3.7: Reliability Test Results on Learners' Questionnaire

Variable	Number of Items	$\alpha > 0.7$	Comments
Collaborative Learning	3	0.846	Reliable
Positive Interdependence	3	0.757	Reliable
Interpersonal Skills	3	0.810	Reliable
Promotive Interaction	3	0.815	Reliable

Source: Field Data, 2021

The reliability results in Table 3.7 depicts that Cronbach's alpha for all the study variables contained in the learners' questionnaire were greater than the minimum acceptable cronbach alpha value of 0.7. Based on the results, variable collaborative learning had a value of $0.846 > 0.7$, variable positive interdependence with three items had a cronbach value of $0.757 > 0.7$, variable interpersonal skills with three variables had a cronbach value of $0.810 > 0.7$ and finally variable promotive interaction with three items as well had a cronbach's alpha of $0.815 > 0.7$. On the basis of these results, all the study variables in learners' questionnaire were considered reliable and suitable for data collection. The findings showed that Cronbach alpha was therefore reliable and acceptable to collect data for each of the variables above the lower acceptable limit.

Piloting for Learners' Achievement test

Business studies learners sat for a one-hour achievement test on ledgers, 20 form 3, which had six questions each carrying 5 marks making a total of 30 marks. Learners were scored individually. The results after analysis were analyzed and results presented in Table 3.8.

Table 3.8: Reliability Results on Achievement test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.976	.976	6

Cronbach's alpha is a test that determines the measuring scale's internal consistency and reliability. It is deemed appropriate for the study if Cronbach's alpha is more than 0.7 or equal to 1. Cronbach's alpha is 0.976 in this study, suggesting that there is a high level of internal consistency.

Table 3.9: Inter-Item Correlation Matrix

	Q1	Q2	Q3	Q4	Q5	Q6
Q1	1.000	1.000	1.000	.734	.811	1.000
Q2	1.000	1.000	1.000	.734	.811	1.000
Q3	1.000	1.000	1.000	.734	.811	1.000
Q4	.734	.734	.734	1.000	.905	.734
Q5	.811	.811	.811	.905	1.000	.811
Q6	1.000	1.000	1.000	.734	.811	1.000

Inter-Item correlation matrix evaluates how the items correlate with each other. Anything below 0.3 indicates no correlation. In this case, all questions had a high correlation meaning that the items held well with each other.

3.5 Tools for Data Collection

Data collection tools for this study involved the use of a Business Studies Achievement test (On ledgers), questionnaire for Business Studies teachers, questionnaire for learners, interview schedule for principals and observation schedule for learners. These tools were used to collect data on influence of collaborative learning strategy on learner achievement in accounting, from selected number of respondents (Creswell, Klassen, Plano Clark & Smith, 2011).

3.5.1 Achievement Test

One of education's main goals is to provide students with the knowledge and skills they need to think critically, solve problems, and thrive in the 21st century society and economy. Such knowledge and abilities must be measured in order to track learners' progress and assess the efficacy of educational policies and procedures. Researchers in education have employed a wide range of learning measures, but recent studies have

concentrated on standardized tests assessing students' topic skills (Borman, Hewes, Overman, & Brown, 2003; Hanushek & Rivkin, 2010). The term "achievement" refers to learning attainment, proficiencies, or accomplishments skills which are directly linked to the pupil's education level. A performance exam is intended to assess knowledge, comprehension and expertise in a particular area or collection of subjects. It is a successful way to determine how well the learner has made some progress towards the intended objective.

In addition, achievement tests often measure the learner's cognitive trait and are designed to measure subject and grade knowledge which is directly related to the pupil's status of educational improvement. In this study, a pre-test for achievement test was administered to two groups of learners, the experimental group and control group1 (E1 & C1). It was administered same day for the two groups before these learners were taught the topic on ledger accounts. After 3 weeks, a post-test was administered to the four groups, on a same day and the same achievement test the learners did in the pre-test. Post-test mean scores for experimental groups were compared with the Pre-tests as well as mean scores for the control groups to test and make judgement on influence of Collaborative learning strategy on learner achievement in accounting.

3.5.2 Questionnaires for Teachers and Learners

A questionnaire is an instrument for collecting data that contains a number of questions to collect information from respondents. According to Saunders, Lewis, & Thornhill (2007), respondents are free to give responses through questionnaires as compared to interviews. The questionnaire for Business Studies teachers (Appendix II) and a questionnaire for learners (Appendix III) had closed-ended and open-ended questions. Section A sought for demographic information in terms of age, gender, teaching

experience and qualifications (for teachers), and year they joined school (for learners). Section B, C, D, E & F addressed independent variables collaborative Learning strategy with its three dimensions namely: Positive interdependence, Interpersonal skills and Promotive interaction. 4-point Likert scale was used to evaluate influence of the three dimensions of Collaborative learning on learner achievement in accounting. In Likert-scale, respondents chose options that supported their views as well as measured the extent to which they agreed or disagreed with the statements and gave reasons for agreeing/disagreeing Kothari (2011).

3.5.3 Interview Schedule for Principals

Interview is an important technique for collecting data that involves use of verbal communication between the researcher and the respondent. By use of an interview schedule, the researcher is able to explore important areas of the study and thereby collect more data, Saunders et al (2012). For this study, interview schedule was used to collect data on management and influence of collaborative learning strategy in schools. The interviews were conducted face to face and responses noted down. The interview schedule had two sections, Section A sought for demographic information in terms of age, gender, academic qualification and years of experience. Part B sought for general information on Collaborative Learning.

3.5.4 Observation Schedule

An observations schedule is a document created before data collection, which identifies the scenario characteristics to be observed and recorded during observation. An observation schedule was used to measure and record the indicators of collaborative learning strategy (positive interdependence, interpersonal skills and promotive

interaction). This was done in a class setting as learners handled tasks on ledgers in groups of five. The researcher observed one group as an assistant helped in taking a video for other groups and later findings were generalized.

3.6 Procedure for Data Collection

An introductory letter from University of Nairobi was used to obtain a research permit from National Commission for Science, Technology and Innovation (NACOSTI) to collect data. Prior visit was made to sampled schools before start of data collection exercise to brief the principals on the nature of the study. For principals' interviews, appointments were made and confirmation made before scheduling for interviews. The questionnaire for teachers and learners were filled in the presence of the researcher and this assisted in clarification of concepts on Collaborative learning strategy. Pre-tests for achievement tests were administered before learners could be taught ledgers. This was done in the presence of the researcher, first week of data collection exercise. Post-tests were administered after three weeks since commencement of the research, and in the presence of the researcher. The researcher filled in the observation schedules during those sessions learners in experimental groups engaged in Collaborative learning while discussing and handling tasks in ledgers. All the four principals and 6 Business studies teachers participated in the study. However, 145 learners out of 161 filled in the questionnaires as some were absent on those specific days the researcher-administered learners' questionnaire. The researcher gave daily reports to the supervisor during data collection period.

3.7 Data Analysis Procedure

Data collected from the field was coded and analyzed to make inferences. The data collected by use of the questionnaires, interviews and achievement tests was first edited, and that involved checking on completeness of the questionnaires and interview schedule, accuracy of the answers as well as uniformity of responses. A descriptive statistics of frequency, mean, standard deviation and percentages was generated together with inferential statistics for the study. The link between the independent and the dependent variables was shown using a linear regression model. T-testing was performed during pre-testing of performance testing in Business Studies. In the context of post-tests for performance testing, Analysis of Variance and post-hoc analysis were also conducted. The results were then displayed using tables and figures.

3.8 Ethical Consideration

During research, ethical standards were upheld. Permission to collect data was sought from (NACOSTI) and an introductory letter from the University of Nairobi was presented to all respondents. Consent to collect data was sought from the principals of the four sampled schools. The teachers, students and the principals were assured of the confidentiality of the information collected. In filling in the questionnaire, teachers and learners were requested not to indicate their names. The researcher made an assurance that no harm could come to the respondents in any form and that the information collected was to be used only for educational purpose.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

The chapter presents instrument return rate, demographic information, and general information on collaborative learning from principals, analysis for dependent variable, field results (descriptive statistics) and lastly inferential statistics.

4.2 Instrument Return Rate

The researcher administered a questionnaire to 161 students and 6 Business Studies teachers from the sampled secondary schools in Igembe Central Sub-County. Four Principals from the four sampled schools were also interviewed. The return rate was as presented in Table 4.1.

Table 4.1: Instrument Response Rate

Category	Distributed	Returned	Returned rate
Students	161	145	90.06
Teachers	6	6	100
Principals	4	4	100

The results presented in Table 4.1 show that the response rate of the students was 90.06%, Business studies teachers was 100% and school principals was 100% as well. Sammut, Griscti and Norman (2021) authorize that return rates of above 50% are suitable for analysis and publication and of 60% and above are extremely good. Based on these assertions from renowned scholars, the response rate from all the units of observation (students, teachers and principals) were above 60% hence very good for the study in making inferences concerning the influence of collaborative learning

strategy on learner achievement in accounting in secondary schools in Igembe Central Sub-County, Kenya.

4.3 Demographic Information

The study sought to establish demographic information of students, instructors and directors on their demographic information. Basic information described involved gender, age bracket (in years), highest qualification, experience in teaching business studies (years). The demographic information about the respondents is presented in Table 4.2.

Table 4.2: Demographic Information on Respondents

Demographic Information	Distribution	Students		Teachers		Principals	
		<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Gender	Male	52	36	3	50	2	50
	Female	93	64	3	50	2	50
Year Joined the School	2018	102	70	-	-	-	-
	2019	25	18	-	-	-	-
	2020	18	12	-	-	-	-
Frequency of Collaborative Activities	Never	70	49	-	-	-	-
	Once	37	25	-	-	-	-
	Twice	38	26	-	-	-	-
Age Bracket	20-29 years	-	-	1	17		
	30-39 years	-	-	2	33		
	40-49 years	-	-	3	50		
	41-50 years	-	-	-	-	2	50
Qualification	51-60 years	-	-	-	-	2	50
	Bachelor's/Graduate	-	-	5	83	2	50
Experience	Master's/Post Graduate	-	-	1	17	2	50
	1-5 years	-	-	1	17	-	-
	6-10 years	-	-	2	33	-	-
	11-15 years	-	-	1	17	-	-
Experience in Teaching Business Studies	16-20 years	-	-	2	33	-	-
	1-5 years			1	17		
Teaching Business Studies	6-10 years			2	33		
	11-15 years			1	17		
Studies	16-20 years			2	33		

Results in Table 4.2, shows that 64% of the students were females, while males were 36%. On the other hand, the gender of business studies teachers who participated in the study were 50/50. Lastly, the gender of principals was also 50/50. The results implied that the number of females in most of secondary schools in Igembe central sub-county that join school and proceed to acquiring secondary education is higher than for males. This was also reflected in grouping for collaborative learning where a group was made up of more females than males. According to Peters, & Dryden, (2011), presence of female gender plays a role in school system by creating a secure environment for girls even as learners engage in collaborative learning.

Table 4.2 shows that 70% of students joined the schools in 2018, 18% joined in 2019 and 12% joined the schools in 2020. The results signified majority of the students have stayed in that school for more years and thus, they are considered reliable to give extensive information relating to the operations of the school. Moreover, the study results found that students attend business studies lessons four times a week. This is critical for them to engage in collaborative learning activities and cover the syllabus on time for revision purposes. The study found that 49% of the students indicated there had been no use of collaborative activities in learning accounting in the classroom per week, 25% of the students indicated there had been the use of collaborative activities in learning accounting in the classroom once per week and 26% noted it had taken place two times a week. The results implied the use of collaborative activities in learning accounting in classroom had been rare.

As shown in Table 4.2, 50% of the teachers were aged between 40 and 49 years. Those aged between 30 and 39 years were 33% and those aged between 20 and 29 years were 17%. Thus, majority of teachers were aged between 40 and 49 years. This indicated

that most of the teachers were mostly at the middle to upper age, and were more energetic and resourceful. The young scholars have more energy and time to do scholarly work and expand their knowledge capacity and have the ability to engage learners in collaborative activities. In addition, the study results presented in Table 4.2 indicated that 50% of the principals were aged between 41 and 50 years and 50% were aged between 51 and 60 years. This implied that all of the principals were above 41 years and thus, they were more experienced in their work. The principals were considered much knowledgeable thus considered critical in responding to the developed research instruments. As noted by Maiyo, (2016), aged teachers have the experience to handle many students, hence the ability to influence students' collaborative learning which helps in knowledge retention

As shown in Table 4.2, 83% of the teachers had bachelors and 17% had masters. Moreover, 50% of the principals were graduates and 50% were postgraduate. This implied that the majority of the teachers had the basic requirement to be admitted as secondary teachers and principals. Thus, they were considered competent in doing their operations of teaching more effectively as they had skills. Educated teachers and principals are more innovative to come up with new ideas for doing their teaching. The attainment of higher education level enables the administration and engagement of institutions to be effective. Knowledge and a good education level are simply one condition for success. This is in agreement with Njue, Njoroge and Chege, (2014), who posited that, academic qualification of the Principal, Deputy Principals and teachers has a positive influence on the quality of educational services delivered in a school thus affecting adoption of collaborative learning activities in the schools. The study results presented in Table 4.2 indicate that 33% of the teachers had an experience of 6 to 10

and 16 to 20 years. Moreover, those who had an experience of 1 to 5 and 11 to 15 years were 17%. Further, the study found that principals have experience of more than 20 years. This implied most of the Business Studies teachers and principals who were involved in the study had an experience of many years and were therefore more reliable to respond to the developed questionnaires.

Finally, based on the results presented in Table 4.2, it was established that 33% of the teachers had experience in teaching business for a period of 6 to 10 years and 16 to 20 years. Furthermore, it was found that 17% of the teachers had experience of 1 to 5 years and 16 to 20 years. This showed that most of the teachers in the schools have worked for many years, thus becoming reliable in answering the survey questions. Besides, the teachers were conversant with activities and management of the schools due to their experience and thus were more familiar with the factors that may be influencing the performance and achievement of the students as far as learning strategies are concerned.

4.4 General information on collaborative learning from principals

The researcher interviewed the principals on general information on collaborative learning. The researcher sought to collect data on management and view on influence of collaborative learning strategy on learner achievement in accounting. Collaborative learning is the process by which students work in smaller groups to handle academic tasks (Slavin, 2014). The use of collaborative learning strategy in education and accounting means that learning process is better suited and that the learners become more motivated to study and perform well in accounting (Muhammad Jani and Tonkabon 2015). Understanding how learners interact when solving problems in a group and exploring how reasoning is used in such settings may inform ways to implement peer discussion to generate high quality leaning experiences and high

achievement in accounting, (Repice *et al.*, 2016 & Leupen *et al.*, 2020), Principals were to respond to five open ended questions and the responses are as depicted below. Among the four principals interviewed, three indicated they learnt about collaborative learning in teacher's college.

Principal 1 stated: "Yes. We did group discussion with other students and used to work on term papers and then preparation in class" Principal 1 [Key informant, 2021]. Principal 2 said, "Yes. We did and used to write term papers individually. We hold discussions on the same term paper before writing the final copy," Principal 2 [Key informant, 2021]. Moreover, principal 3 noted, "Yes. We used to have discussion groups with a few students but not so often", Principal 3 [Key informant, 2021]. Lastly, Principal 4 indicated that "No: Didn't get involved much in the activity (CL) but could just join in small groups (friends and revise for exams together. Not supervised", Principal 4 [Key informant, 2021].

Moreover, the study sought to determine how teachers use collaborative learning strategy in teaching form 3 accounting topics in the school and the findings were as shown below.

Principal 1 indicated that "teachers group learners according to ability and sometimes learners are supervised as they work on tasks in accounting and their respective groups. Other times, students do collective learning on their own without being supervised by teachers" Principal 1 [Key informant, 2021]. Moreover, Principal 2 stated, "they put/ arrange learners into groups. Assign them tasks. The groups are supervised and assignments marked and mostly conducted in the evening hours", Principal 2 [Key informant, 2021]. Further, principal 3 noted, "Teachers categorize learners according to their ability and supervise them and mostly happen in science subjects. However, not done so often" Principal 3 [Key informant, 2021]. Moreover, Principal 4 noted, "Teachers organize learners in group especially towards exams and other times

learners group themselves and revise. Not done so often though we mostly have learners revising individually” Principal 4[Key informant, 2021].

The study sought to determine in what ways principal thinks the learners would benefit from Collaborative learning strategy and the outcome is depicted below;

Principal 1 reported, “Weak learners are able to improve their grade. The bright learners also retain knowledge better when they explain concepts to others and share ideas” Principal 1[Key informant, 2021]. Moreover, principal 2 said, “Weak learners are challenged by others and can learn and understand concepts. Bright students also improve through sharing their knowledge with others and are able to acquire more knowledge”, Principal 2[Key informant, 2021]. Further, Principal 3 reported, Learners, acquire good communication skills and leadership skills that can be used to address the weak students. Brings sought of enthusiasm among learners to improve their performance”, Principal 3 [Key informant, 2021]. Likewise, principal 4 said, “Learners are able to share ideas and the level of knowledge retention is high when learners engage in CL. This can boost their achievement”, Principal 4 [Key informant, 2021]

The study further sought to determine limitations involved in using CL strategy in teaching and learning of accounting based on the principal views and the results are depicted below;

Principal 1 noted that “Weak and shy learners may feel discouraged and bright students that mostly learn on their own may feel like they are wasting time. The strategy requires a lot of time which may be a challenge” Principal 1 [Key informant, 2021]. Principal 2 said that it requires a lot of time and if some learners are not well supervised, they shift main talks. It's noisy activity. Carrying it out within normal lessons may distract learners in other classes”, Principal 2 [Key informant, 2021]. Principal 3 noted that “the strategy requires a lot of space and you find the structures may not be enough. It has a time limit and weak learners may feel uncomfortable sharing/ discussing with the bright students” Principal 3 [Key informant, 2021]. Moreover, principal 4 said that

“the school has tight schedules. It becomes difficult to set aside enough time for the strategy, as it requires a bit of time. Passive/shy learners may not benefit. Facilities/structures are not enough to accommodate the activity (CL) and ensure its effectively practiced” Principal 4 [Key informant, 2021].

The study sought to determine whether the principals would advise business studies teachers to modify their teaching strategies for CL in any way or how they would make it more effective and the outcomes is depicted below.

Principal 1 said, “I support teachers by financing them to attend workshops and learn more about the learning strategy. I can appreciate teachers in monetary terms for extra time spent in supervising learners as they engage in collaborative learning and encourage teachers and learners to adopt the strategy” Principal 1 [Key informant, 2021]. Moreover, principal 2 indicated that “I encourage teachers to use the strategy and also have teachers attend workshops/seminars to be enlightened on the use of CL. They advise learners to adopt the strategy in learning” Principal 2 [Key informant, 2021]. Furthermore, principal 3 stated, “I create more time for the activity, create more norms/ space for the activity and compensate teachers and learners for adopting the strategy” Principal 3 [Key informant, 2021]. Principal 4 indicated, “I can Create more time for the activity and reward/ motivate teachers who engage the learners in the activity in learning accounting. Support teacher’s workshops to learn more about the strategy and encourages learners to use the strategy” Principal 4 [Key informant, 2021].

The findings showed that principals appreciated use of the learning strategy and were ready to support collaborative learning because when students work in small groups they maximize learning of each member, acquire more knowledge and attain high achievement in accounting (Scager, Boonstra, Peeters, Vulper horst & Wiegant 2016). This knowledge is gained through the sharing of resources, mutual support and joint success.

4.5 Analysis for the dependent variable

Achievement test was the main tool for this study and it was used to measure dependent variable; learner achievement in accounting. Four groups of learners were used in line with Solomon Four quasi experimental research design. Two groups of learners were given a pre-test before they were taught the topic ledgers, After the pre-test, they were engaged in Collaborative learning as they studied ledgers and after three weeks, the four groups were given a post-test. This was done to determine influence of collaborative learning strategy on learner achievement in accounting, for learners in experimental groups. The results would be compared with results for learners in control group who used conventional methods to study ledgers. The total number of learners involved in the study were 161; Group A –Experimental group1 (E1), consisted of 40 students (24.8%), Group B- Control group 1 (C1), composed of 38 students (23.6%), Group C- Experimental group2 (E2), consisted of 41 students (25.5%) and Group D- Control group 2 (C2), composed of 42 students (26. 1%).The total mark for achievement tests in pre-test as well as post-tests was 30. Results on table 4.3 show mean scores for pre-tests and post-tests for the four groups.

Table 4.3: Mean scores for Pre-Tests and Post-Tests for Four Groups

GROUPS	PRE-TEST	POST-TEST
E1	4.73	14.58
E2	-	15.02
C1	4.52	10.57
C2	-	9.95

Table 4.3 findings demonstrate that the mean score for Experimental group 1 for pre-test was 4.73 and control group 1 was 4.52. Findings further indicate that post-test mean

scores were 14.58 for experimental group 1, 15.02 for experimental group 2, 10.57 for control group 1 and 9.95 for control group 2. This implied that learners in experimental groups (E1 & E2) had enhanced achievement in accounting after engaging in collaborative learning, as reflected in scores for post-tests as compared to learners in control groups who used conventional methods of learning.

Table 4.4: T-Test for Control Group 1 and Experimental Group 1

				Levene's Test for Equality of Variances		t-test for Equality of Means	
				F	Sig.	t	df
Pre test scores	Equal variances assumed			2.659	.107	.544	76
	Equal variances not assumed					.548	73.045

Table 4.4 findings demonstrate that there is no statistical difference between the two groups that sat for a pre-test groups, that is, the mean results for the experimental group 1 (E1) and the control group 1 (C1) before testing, hence the null hypothesis is accepted ($P > 0, 05$). The findings also suggest that before the study began, the students were at the same level of critical thinking.

Findings from table 4.5 indicate the results for the four groups on Post-test -ANOVA.

Table 4.5: Post-tests-ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	706.593	3	235.531	32.182	.000
Within Groups	1149.047	157	7.319		
Total	1855.640	160			

Based on the results in Table 4.5, ($P < 0.05$) therefore, the study rejected the null hypothesis and concluded that there was a statistical significant differences between groups. Control groups that employed conventional methods achieved the lowest results following the instructional procedure whereas; students who studied through CL displayed better critical thinking which was reflected by high scores in the post-tests. This confirmed the assertion that learners who get a chance to be involved in collaborative learning and engage in argumentation show an increase in knowledge retention and ability to use reasoning resulting to enhanced achievement in accounting (Felton *et al.*, 2015). Further, a Post-Hoc analysis was conducted to compare the results from the four groups and show the difference in achievement within the four groups. Table 4.6 show the Post-Hoc Analysis results.

Table 4.6: Post Hoc Tests, Multiple Comparisons

(I) Program	(J) Program	Mean Difference (I- J)	Std. Error	Sig.	95% Confidence Interval
					Lower Bound
Experimental E1	Experimental E2	-.181	.601	.764	-1.37
	Control C1	3.391*	.613	.000	2.18
	Control C2	4.575*	.598	.000	3.39
Experimental E2	Experimental E1	.181	.601	.764	-1.01
	Control C1	3.572*	.609	.000	2.37
	Control C2	4.756*	.594	.000	3.58
Control C1	Experimental E1	-3.391*	.613	.000	-4.60
	Experimental E2	-3.572*	.609	.000	-4.78
	Control C2	1.184	.606	.052	-.01
Control C2	Experimental E1	-4.575*	.598	.000	-5.76
	Experimental E2	-4.756*	.594	.000	-5.93
	Control C1	-1.184	.606	.052	-2.38

Based on the results in Table 4.5, it is evident that there is a statistical significant difference between Experimental group E1 and Control Group C1 since the $p < 0.05$. There is a statistical significant difference between Experimental group E2 and Control Group C2 since the $p < 0.05$. There is a statistical significant difference between Control group C1 and Experimental Group E1 since the $p < 0.05$. There is a statistical significant difference between Control group C2 and Experimental Group E2 since the $p < 0.05$. This indicated that experimental groups recorded a high mean as compared to the control groups confirming that Collaborative learning strategy has a positive impact on learner achievement in accounting. This was in agreement with (Scager, Boonstra, Peeters, Vulperhorst and Wiegant, 2016), who indicated that through collaborative learning, student's individual grades improve when the whole group improves in its achievement through use of collaborative learning strategy.

4.6 Collaborative learning and Learner Achievement in Accounting

Respondents responded to collaborative learning statements, a strategy involving grouping learners into small groups and assigning them work in ledgers that they were to work on and complete tasks or solve problems as a group equipping the individual learners with knowledge and enhancing achievement in accounting (Machado and Coimbra, 2015). Responses were rated on a four Likert Scale as (4-strongly agree, 3-agree, 2-Disagree and 1-strongly disagree). The field result by teachers on collaborative learning is as shown in Table 4.7.

Table 4.7: Collaborative Learning

Statement	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Mean</i>	<i>SD</i>
	<i>F (%)</i>	<i>F (%)</i>	<i>F (%)</i>	<i>F (%)</i>		
Collaborative learning creates a better opportunity for learning by involving every learner in entering the different items in ledger accounts	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03
CL Promotes a collaborative learning environment promotes more responsible learners as every learner in the group is accountable for the group's success	0	2(33.33)	1(16.67)	3 (50)	3.29	1.07
CL motivates learners to learn ledgers when given freedom to share their views on how certain transactions should be recorded	0	2(33.33)	2(33.33)	2(33.33)	3.26	1.04
Average					3.25	1.05

The descriptive statistics presented in Table 4.7 shows that 66.66% of the teachers agreed that collaborative learning creates a better opportunity for learning by involving every learner in entering the different items in ledger accounts while 33.34% disagreed with the statement. Those who agreed stated that they have observed when learners engage in CL while learning ledgers, they are able to prepare ledger accounts accurately and enter transactions on the right sides of the ledger accounts, hence scoring marks in that area. This was supported by the mean score of 3.27 and standard deviation of 1.03, implying an improvement is made by learners on how they enter transactions on ledger accounts, once they have engaged in CL activities. Those who disagreed stated that some learners are unable to enter transactions accurately because they don't understand the concepts well and may fear asking for clarification from their peers.

Moreover, Table 4.6 shows that 66.67% of the teachers agreed that CL promotes a collaborative learning environment that promotes more responsible learners as every learner in the group is accountable for the group's success while 33.33% disagreed with the statement. For those who agreed, they indicated that learners were able to acquire a sense of responsibility in that they were concerned about the success of the whole group. This was evidenced by the manner in which they participated in working on tasks as a group. Those who disagreed stated that some learners are joy riders in the group therefore not all learners ensure they are responsible and accountable to the groups' success. Some may not participate and may only wait for the contribution of some specific members within the group. The mean score of the survey question was 3.29 with a standard deviation of 1.07 implying that Collaborative learning promoted the aspect of responsibility and accountability among learners.

In addition, 66.66% of the teachers agreed that CL motivates learners to learn ledgers when given the freedom to share their views on how certain transactions should be recorded. 33.33% disagreed with the survey question. Those that agreed stated that when learners are grouped for CL, they get excited and look motivated to carry out the tasks on their own, especially when not supervised by their teacher. This is because they are free to express themselves and get open on how much they understand the concepts in ledgers. Those who disagreed stated that learners don't enjoy the grouping for collaborative learning, especially those learners who only trust the teacher as a source of the accurate information, or those who only prefer learning on their own. The mean score of the question in this survey was 3.26 and was 1.04. Standard deviation. Finally, the average score of question marks 3.25 and this showed that the majority of instructors accepted questions from the survey but with different views as the standard

difference was 1.05. The findings further revealed that learners agreed that CL helps in bringing a clear and wide understanding of concepts in ledger accounts, enabling them to fill in the right items and balance accounts accurately while only a few disagreed. Those who agreed stated that when concepts in ledgers are explained by their peers, they understand it better as they use the language they understand while those who disagreed stated that they prefer when the teacher explains concepts on ledgers than when their fellow classmates do. Others preferred learning on their own. The mean result of survey was 3.59 with a standard deviation of 1.32. This implicitly agreed majority of CL students helps to provide a clear and broad grasp of the ideas included in ledger accounts, which enables learners to accurately complete the correct items and balance accounts.

Furthermore, it was found that 83.25% of the learners agreed that CL enable learners to improve on performance in ledgers as handling tasks together promotes their critical thinking capabilities while 16.75% disagreed with the statement. Those who agreed cited they have improved in entering items on ledger accounts accurately. They now know how to handle the different transactions affecting different ledger accounts, when they discuss tasks on ledgers through collaborative learning. Those who disagreed stated that they may not record a significant improvement when they only rely on group discussions, they need to set aside more time individually and reflect on what they learnt as a group. The mean score obtained was 3.71 with a standard deviation of 1.28. This signified that the majority of the learners agreed CL enable learners to improve on performance in ledgers as handling tasks together promotes their critical thinking capabilities.

Further, table 4.6 shows that 72.61% of the learners agreed that CL is motivating as learners encourage and enlighten each other, making tasks appear easier and 27.39% (6.70+20.69) disagreed with the statement. Those who agreed cited that joining in groups for learning purpose motivates most of the learners and therefore find tasks easier when they work on them as a group. Those who disagreed stated that not all learners are motivated by having them work on groups. Some feel it's a waste of time and others feel intimidated when they are asked or expected to make contribution. The average score was 3.17 with a SD of 1.09. The majority of the students have therefore concluded that CL motivates each other when they encourage and illumine one other, thereby facilitating the work. In the survey, the average mean score was 3.49 and a standard deviation was 1.23. This meant that most students agreed with the survey comments on collaborative learning.

Moreover, from the interview session, Teacher 1 indicated, "Through CL, learners get a chance to understand concepts better through the discussions. Most of the learners can participate in the learning process freely and share ideas. Through CL, learner's interest in accounting topics develops as they work together as a team. Learners are able to express themselves as they discuss with others through CL enhancing their understanding in accounting" Teacher 1 [Key informant, 2021]. Furthermore, Teacher 2 said, "CL creates a good learning environment for learners and they are able to ask each other questions promoting their understanding of concepts in accounting. CL can help improve learners' communication skills as well as their critical thinking. Through Cl, weak learners get good ideas from the bright students, like how to handle tasks in ledgers. CL promotes teamwork and participation", Teacher 2 [Key informant, 2021]. Likewise, Teacher 3 stated, "CL should be allocated more time when adopted to make

it more effective and helpful to the learners. Learners and teachers should adopt the strategy as it can enhance learner achievement in accounting. The strategy can help in Mastery of content in accounting leading to high achievement. Passive learners may not benefit nor benefit the group; therefore, it is important for teachers to supervise the activity to ensure all learners participate and learn from each other” Teacher 3 [Key informant, 2021].

In addition, from the interview session, Learner 1 stated, "In learning through CL, we can understand each other easily than the way we understand the teacher. In CL, learners have the confidence to ask each other questions freely. Moreover, we are able to identify our weaknesses easily than when handled by a teacher or when learning individually. Through CL I am able to recall ideas shared by others more than when I do learning on my own" Learner 1 [Key informant, 2021]. Furthermore, Learner 2 said, "Learners participate more in learning ledgers through CL and understand concepts better. Learners can ask all manner of questions to their classmates but may shy off doing this with the teacher in class. This boosts their understanding. In Cl, learners argue their points and finally agree on solutions to tasks. This creates an atmosphere for learning and makes learners more active in the learning process. Through CL' learners recall what they learnt more than when they study individually" Learner 2 [Key informant, 2021]

Moreover, Learner 3 depicted, "CL helps learners learn from others and ask questions confidently where they don't understand. CL enable learners acquire problem-solving skills. Through CL, learners are able to identify their weaknesses in accounting and work on them. Through CL, I have been able to acquire social skills such as listening and good communication skills", Learner 3 [Key informant, 2021]. Likewise, Learner

4 stated, "CL equip learners with good decision-making skills. Further, CL has boosted learners' understanding of ledger accounts, which would have been difficult when doing it individually. Through CL, weak learners understand concepts better in ledgers. CL creates friendship among learners and this makes them free to share knowledge and boost each other's' understanding. Learners are able to learn different skills and formulas on how to tackle different questions in accounting", Learner 4[Key informant, 2021].

Similarly, Learner 5 reported that "CL help learners acquire more knowledge and understand concepts in accounting hence enhancing high achievement. Learners require teachers' guidance during CL. CL boosts learner performance in accounting but it requires more space and time for it to be effective", Learner 5[Key informant, 2021].

Similarly, Learner 6 noted that "Congestion in classes may render CL ineffective as groups will be made up of many students making them difficult to coordinate well. Some learners may be inactive in the group, discouraging others to learn through CI" Learner 6 [Key informant, 2021].

4.7 Positive Interdependence and learner achievement in accounting

The study sought to establish influence of positive interdependence on learner achievement in accounting. Positive interdependence is a situation in which learners are accountable to own learning and success as well as the achievement of colleagues in the group, Slavin (2014). It is implemented in such a way that the students' individual grades in accounting depend on achievement of the whole group. (Scager, *et al*, 2016). The objective was answered through descriptive statistics. Teachers were to respond to statements on; action substitutability, character inducibility and positive cathexis. The

responses were rated on a four Likert Scale as (4-strongly agree, 3- agree, 2-Disagree and 1-strongly disagree). The findings are as presented in tables 4.8, 4.9 and 4.10.

4.7.1 Positive interdependence, Action substitutability and Achievement in Accounting

The field results of teachers on action substitutability and learner achievement in accounting are presented in Table 4.8.

Table 4.8: Action Substitutability

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Learners in the groups are interdependent in that they rely on each other to develop knowledge and acquire success	1(16.67%)	1(16.67%)	2(33.33)	2(33.33)	3.21	1.03
Learners develop positive interest in working on tasks as a group by enjoying and experiencing the support and assistance from peers	2(33.33)	0	2(33.33)	2(33.33)	3.16	1.01
There is the aspect of responsibility among the learners in the group as each learner is committed to entering correct t items on ledger accounts	1(16.67)	1(16.67)	1(16.67)	3(50)	3.32	1.13

The results presented in Table 4.8 indicate that 66.66% of the teachers agreed that learners in the groups were interdependent in that they rely on each other to develop knowledge and acquire success and 33.34% disagreed with the statement. Those who agreed indicated that weak learners will always want to hear the bright learner’s opinion on how a task in ledgers is handled and they are keen to capture the procedure on how to enter the items involved in transactions in the ledger accounts. Those who disagreed stated that not all learners are interdependent; some will try to outdo others in the group

and may not be so willing to show their peers that they don't understand. This may make them not learn any new idea from their group mates. It's therefore important that learners are taught the need for interdependence in group work so that all learners can be willing and ready to learn from each other. That way they improve on their understanding on ledgers and overall performance in accounting. The mean score of the survey statements was 3.21 with a standard deviation of 1.03. This implied that majority of the teachers agreed that learners in collaborative learning groups are interdependent in that they rely on each other to acquire knowledge.

Moreover, 66.66% of the teachers agreed that learners develop a positive interest in working on tasks as a group by enjoying and experiencing the support and assistance from peers while 33.33% disagreed with the survey question. Those who agreed indicated that some learners even request to be given assignments in groups, after realizing through group work they are motivated to share ideas and understand concepts better. These results are in support of the findings of the study by Cohen & Lotan (2014) which pointed out that, within a collaborative situation, which is characterized by positive interdependence, if one member is unable to perform a particular task, the members of the group will be expected to increase their motivation and work harder in ensuring joint success as their actions can substitute the actions of their group members who are incapable of completing the particular task. This meant they enjoy the support and assistance they get from each other in the learning process. Those who disagreed stated that some learners feel Collaborative learning strategy would consume so much of their time and therefore would prefer learning on their own. In order to change that perspective, learners should be advised on how to make the learning strategy interesting and make use of it within the allocated time effectively. The mean score of the statement

was 3.16 with a standard deviation of 1.01. This indicated that the support and assistance learners get from each other during collaborative learning boosts their interest towards the learning strategy leading to high achievement in accounting.

In addition, 66.67% of the teachers agreed there is an aspect of responsibility among the learners in the group as each learner is committed to entering correct items on ledger accounts and 33.34% disagreed with the survey question. Those who agreed indicated that when learners are working in groups, they are keen on entering right items on ledger accounts because when they do it right, all individuals in the group will benefit when they score it right. Those who disagreed stated that some learners may not fully participate in the group, especially when they assume those who understand, will do it for them. This however affects the individual learner's achievement when individual assessment is done rendering the learning strategy ineffective. The mean score of 3.32 was obtained from the survey statement with a standard deviation of 1.13 indicating that a bigger percentage of teachers were in support of the statement that learners feel responsible and commit themselves to entering items correctly on the ledger accounts.

The findings also revealed that learners agreed learners work together in CL as one team with similar goals by working on assigned tasks in ledgers collaboratively and only a few disagreed with the survey question. Those who agreed stated that learners work jointly on tasks in ledgers when engaged in CL and have similar goals, while those who disagreed stated that some learners are free riders and are never focused on achieving group's goals. Learners should therefore be encouraged to work as team in CL in order to achieve the group's goals. The mean score of the survey question was 3.59 with a standard deviation of 1.32. This implied that majority of the learners agreed that learners work together in CL as one team with similar goals by working on assigned

tasks in ledgers collaboratively. Moreover, from the observation schedule in appendix I, it was observed that the contribution of all learners in recording items on ledger accounts was medium and interest in volunteering to balance the ledger accounts was both medium and high. It was further observed that the interdependence level of members in entering transactions accurately was medium, bonding levels of learners in the group was medium, and level of engagement with task goals in ledgers was mainly mediums.

4.7.2 Positive interdependence, Character Inducibility and Achievement in Accounting

The field results of teachers on character inducibility and learner achievement in accounting are presented in Table 4.9.

Table 4.9: Character Inducibility

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Learners experience positive influence from group members in working on tasks in ledgers, where each learner feels the need to make contributions	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03
Learners encourage each other to be involved in the groups' activities by challenging each other to try out tasks and appreciating their contribution	3(50)	3(50)	0	0	1.96	0.82
Learners interest in recording items on ledgers is promoted as they are able to solve tasks together or find solutions to challenging areas in accounting	0	1(16.67)	2(33.33)	3(50)	3.47	1.25

Based on the results on Table 4.9, it was established that 66.66% of the teachers agreed that learners experience positive influence from group members in working on tasks in

ledgers, where each learner feels the need to contribute while 33.34% disagreed with the statement. Those that agreed stipulated that quiet learners are influenced by others when they see them talking and making contributions in the group, and they find themselves doing the same. Those who disagreed stated that not all learners are influenced by others positively, in that they get challenged to make contributions in the group as well. The mean score of the statement was 3.21 with a standard deviation of 1.03. This implied that the bigger percentage teachers agreed that learners experience positive influence from group members in working on tasks in ledgers, where each learner feels the need to contribute.

Likewise, table 4.8 indicates that 100% of the teachers disagreed that learners encourage each other to be involved in the groups' activities by challenging each other to try out tasks and appreciating their contribution. They stated that in collaborative learning, learners may not directly encourage or request their peers to make contribution as they fear embarrassing or intimidating them in the group. They are more focused on just having the volunteers participate in the learning process and this may leave out others that don't understand or make them feel uncomfortable in the group. It's the teacher's duty therefore to supervise the groups and ensure all learners participate in making contributions to the group. The mean score was 1.96 with a standard deviation of 0.82. This implied teacher didn't agree with the statement that learners encourage others to engage in collaborating learning activities as they study ledgers.

Moreover, 83.33% of the teachers agreed that learners' interest in recording items on ledgers is promoted as they can solve tasks together or find solutions to challenging areas in accounting and 16.67% disagreed with the survey question. Those who agreed indicated that once the learner understands how to enter items in ledger accounts

correctly, they will develop the interest of doing it on their own even when doing individual learning and this will lead to high achievement in accounting. Those who disagreed stated that some learners find opening several ledger accounts tasking and may not have the interest to keep practicing as they find it tiring. The mean score of the statement was 3.47 with a standard deviation 1.25, implying that the bigger percentage (83.33%) agreed that collaborative learning develops and improves learner's interest in working on accounting tasks.

In addition, learners agreed that all learners strive to contribute in groups' activities as the Success of individual learners is based on the success of the entire group while only a few disagreed with the survey question. Those who agreed stated that there is good participation of learners in the group as they all strive to work on ledger tasks accurately to attain group's success, while those who disagreed stated that weak learners may not feel free to make contributions in the group and bright learners may feel like they are being taken advantage of by weak learners by having them make more contribution on tasks assigned. These results imply that there is good learner participation in CL which is likely to lead to high achievement in accounting.

Findings from the observation schedule indicated that learners' interest towards groups' activities was either medium or high, level of motivation to joint success, ability to move towards same direction and focus of learners on groups' goals were all mediums. The researcher observed that interest in forming relationships between students and interest in working on tasks to completion is both medium and high, while level of organization in handling of tasks is only medium as presented in appendix I. It was also observed that willingness to participate in groups' tasks is medium and interest towards groups' activities and level of idea sharing is both medium and high. The results are in

agreement with the conclusions made by Johnson and Johnson (2015) that, most of the impacting approaches used within the Collaborative situations to a big extent promote the learner's understanding of the subject leading to greater achievement for the whole group. They also indicated that in CL learners are encouraged to appreciate each other's' contribution and be willing to accept any positive influence coming from the group members in order to achieve success in accounting, as impacting actions among the members in the group leads to high achievement than are influence actions by the members not in the group.

4.7.3 Positive interdependence, Positive Cathexis and Achievement in Accounting

The field results of teachers on positive cathexis and learner achievement in accounting are presented in Table 4.10.

Table 4.10: Positive Cathexis

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Learners have their efforts directed towards achieving the groups' goals by working hard collaboratively and ensuring accurateness in doing ledgers	0	1(16.67)	3(50)	2(33.33)	3.16	1.09
A strong bond is created among learners working in CL environment as they are seen to care for each other by clarifying ideas for better understanding	1(16.67)	1(16.67)	1(16.67)	3(50)	3.32	1.13
CL encourages sharing of ideas and unity in working on tasks by learners giving each other a chance to contribute and make conclusions as a group	1(16.67)	1(16.67)	1(16.67)	3(50)	3.32	1.13

Based on the results in Table 4.10, 83.33% of the teachers agreed that learners have their efforts directed towards achieving the groups' goals by working hard collaboratively and ensuring accurateness in doing ledgers and 16.67% disagreed with the survey question. Those who agreed indicated that when learners are put in groups to work on ledger accounts collaboratively, they put effort in ensuring the whole group succeeds. Those who disagreed stated that learners in the group don't contribute equally nor put equal effort in ensuring group success. The mean score of the survey question was 3.16 with a standard deviation of 1.09. This implied that majority of the teachers agreed that learners have their efforts directed towards achieving the groups' goals by working hard collaboratively and ensuring accurateness in doing ledgers.

Similarly, findings indicated that 66.67% of the teachers agreed that a strong bond is created among learners working in CL environment as they are seen to care for each other by clarifying ideas for better understanding while 33.34% disagreed. Those who agreed stated that Learners in CL unite and are concerned about each other's achievement While those who disagreed stated that after Collaborative learning activities, learners' don't make follow-up on each other's' achievement, especially after individual assessment has been made. The mean score of the survey question was 3.32 with a standard deviation of 1.13. This implied that the majority of the teachers agreed that a strong bond is created among learners working in a CL environment as they are seen to care for each other by clarifying ideas for better understanding and develop interest of working together even in other subjects.

Additionally, 66.67% of the teachers agreed that CL encourages sharing ideas and unity in working on tasks by learners giving each other a chance to contribute and make conclusions as a group while 33.34% disagreed with the survey question. Those who agreed cited that in Collaborative learning, learners contribute in turns and in preparing and entering items on ledger accounts, they take turns as well and make conclusions as a group, while those who disagreed stated that in some collaborative learning groups, learners have just on learner preparing and entering items on ledger accounts as others observe and listen. This therefore implies many learners will be passive and may not learn much or retain knowledge if they all don't participate in the group's tasks. The mean score was 3.32 with a standard deviation of 1.13 implying a majority of the teachers agreed Collaborative learning promoted unity and all learners can have a chance to participate in the group's tasks.

Further, learners agreed that learners are able to share a variety of ideas on how to accurately enter items in ledger accounts while only a few disagreed with the statement. Those who agreed stated that they are able to share ideas on how to tackle tasks on ledgers and understand concepts better in CI while those who disagreed stated that they prefer when they work on tasks individually as they consult their teacher. The outcome from the observation checklist also depicted that ability to listen and agree to similar ideas and the ability to appreciate other learners' contributions is low while the order level in solving problems in-group is medium. The above findings are consistent with the assertions of Johnson & Johnson, (2019) that, collaborative learning situations that embrace positive interdependence, beneficial activities are cathected in a positive way, while ineffective actions are cathected negatively and this means that learners will be more interested and have a positive attitude towards the group discussion as they are able to share ideas, perform tasks together and therefore benefit from each other. Cathexis creates an emotional interdependence among the members in the group which is key to enabling the learners create a bond and work towards achieving high grades in accounting.

4.8 Interpersonal Skills and learner achievement in accounting

This study aimed to find out influence of interpersonal skills on learner achievements in accounting. Conflict resolution capability, consensus-based policy-making skills and leadership abilities, conversation and discussions, team building skills and empathy are typically conceived in terms of inter personals skills (Parker & Hacket, 2012). Teachers were to respond to statements on; Verbal communication, decision making and conflict management. The responses were rated on a four Likert Scale, (4-strongly agree, 3-

agree, 2-Disagree and 1-strongly disagree). The findings are as presented in tables 4.11, 4.12 and 4.13.

4.8.1 Interpersonal skills, Verbal Communication and Achievement in Accounting

The field results of teachers on verbal Communication and learner achievement in accounting are presented in Table 4.11.

Table 4.11: Verbal Communication

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Learners are able to share ideas and understand each other by explaining why certain items should be recorded on either debit or credit sides	0	1(16.67)	2(33.33)	3(50)	3.47	1.25
Through the learner interactions meaning to concepts learnt in ledgers is created leading to high levels of understanding	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03
Learners are given an opportunity to share views leading to a variety of ideas on how to record items on ledger accounts.	0	2(33.33)	2(33.33)	2(33.33)	3.26	1.04

The results presented in Table 4.11 shows that 83.33% of the teachers agreed that learners are able to share ideas and understand each other by explaining why certain items should be recorded on either debit or credit sides while 16.67% disagreed. Those who agreed cited that learners explained to others why certain items were to be recorded on specific sides of ledger accounts, as they did the discussion, while those who disagreed stated that the explanation given by learners to others on why certain items

needed to be recorded on specific sides of ledger accounts was not convincing therefore some learners may not fully understand why certain transactions had to be effected in certain ways. This implied that teachers' explanation would be the most appropriate. The mean score was 3.47 with a standard deviation of 1.25. This implied that the majority of the teachers agreed that learners can share ideas and understand each other by explaining why certain items should be recorded on either debit or credit sides.

Moreover, 66.66% of the teachers agreed that through the learner interactions meaning to concepts learnt in ledgers are created, leading to high levels of understanding while 33.34% disagreed with the survey question. Those who agreed stated that the interactions learners make as they do learning of ledgers through CI boosts their understanding of concepts as they talk to each other and explain concepts leading to high understanding. Those who disagreed stated that some learners are shy and may not open enough to others and make them understand their weaknesses and get the necessary assistance. The mean score was 3.26, with a standard deviation of 1.04, implying that good understanding of concepts in ledgers is enhanced when learners study through CL.

Further table 4.10 findings show that 66.66% of the teachers agreed with the fact that learners were being given opportunity to share views leading to a variety of ideas on how to record items on ledger accounts while 33.33% disagreed with the survey question. Those who agreed stated that learners have different ways of understanding concepts, and when they share this, they all go for the easier ways of manipulating tasks, as long as they agree it gives accurate results. Those who disagreed stated that some learners may guide others wrongly, depending on their different ways of understanding and working on tasks on ledgers. The responses had a mean and standard deviation of

3.26 and 1.04 respectively. This implied that CL gives learners an opportunity to share different ideas which is crucial to their understanding and achievement.

Moreover, findings from learners agreed CL improves learners' social skills, such as listening and communication skills when they listen attentively to each other and take turns in contributing while only a few disagreed with the survey question. Those who agreed stated that through collaborative learning, they have been able to improve in how they interpret and understand tasks in ledgers thereby improving on their achievement while those that disagreed stated that shy learners may not acquire the interpersonal skills as they mostly don't participate and only wait for the bright ones to participate in the discussions. The mean score was 3.54 with a standard deviation of 1.26. This signified that majority of the learners agreed that CL improves learners' social skills, such as listening and communication skills when learners listen attentively to each other and take turns in contributing.

Further findings through observation schedule indicated that the ability of students to negotiate respectively is low, ability to choose between alternative ideas and ability to listen attentively to each other is both medium and low. Moreover, from the observation, it was noted that the ability to use names while addressing each other and Communication levels among learners is both medium and high while the ability to invite others to contribute is medium. The results are in support of the conclusions made by Garrison, *et al*, 2010 that, in order to improve learning, effective communication in education needs a collaborative community, which promote positive interdependence and high order thinking leading to high achievement in accounting, discussion is therefore a democratic process and each learner is given an opportunity to share their views. In addition, they are consistent with the argument by Littleton & Mercer, (2013)

that, without good communication in collaborative learning, the process of learning cannot take place and someone with good communication skills has the potential to influence others and effective communication strategies will lead to high achievement in accounting.

4.8.2 Interpersonal skills, Decision Making and Learner Achievement in Accounting

The field results of teachers on decision making and learner achievement in accounting are presented in Table 4.12.

Table 4.12: Decision Making

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Through CL learners bring more resources to the group when they all get involved in the decision making process	0	1(16.67)	2(33.33)	3(50)	3.47	1.25
Learners come up with creative and innovative solutions to problems when they reason together and challenge their thinking ability.	0	2(33.33)	0	4(67.67)	3.52	1.29
The individual learners are equipped with decision making skills when they come up with solutions to handling tasks in accounting and agree on them	0	1(16.67)	0	5(83.33)	3.71	1.31

The study results on table 4.12 showed that 83.33% of the teachers agreed that through CL learners bring more resources to the group when they all get involved in the

decision-making process while 16.67% disagreed with the survey question. Those who agreed cited that learners bring in Knowledge and materials that they share with their peers creating more understanding of ledger concepts. Those who disagreed stated that learners may not share all the resources that would facilitate good understanding of concepts in ledgers and lead to high achievement. This mostly happens when learners are grouped without considering their intellectual ability. If just low ability learners are grouped together without mixing them with high ability learners, they don't share much. The mean score of the survey question was 3.47, with a standard deviation of 1.25. This created an indication that CL can help learners bring and share more resources within the groups, enabling them make good and right decisions, hence enhancing achievement in accounting.

Moreover, it was found that 67.67% of the teachers agreed that learners come up with creative and innovative solutions to problems when they reason together and challenge their thinking ability while 33.33% disagreed. Those who agreed indicated that by reasoning together, learners become creative and innovative in handling tasks on ledgers raising their achievement, while those who disagreed stated that learners only stick to what and how the teacher has taught them and always insist on handling tasks as the teacher taught. A mean score of 3.52 and standard deviation of 1.29 implied that a majority of teachers agreed that CL promotes creativity among learners.

Further, results on Table 4.12 indicates that 83.33% of the teachers agreed that the individual learners are equipped with decision-making skills when they come up with solutions to handling tasks in accounting and agree on them while 16.67% disagreed with the survey question. Those who agreed indicated that learners develop decision making skills as evidenced by decisions and agreements they make pertaining the tasks

they handle in ledgers. Those who disagreed stated that passive learners may not participate in the decision making process. The mean score of the survey question was 3.71 with a standard deviation of 1.31 implying a majority agreed with the statement. Moreover, slightly less than half of the students agreed that CL Promotes independence in reasoning, making learners acquire decision-making skills while slightly more than half disagreed with the survey question. Those that agreed stated that after they have engaged in CL in learning ledgers, they are able to work on transactions and get to enter them accurately on ledger accounts, by applying the knowledge gained through discussions, while those that disagreed stated that they are unable to work on tasks individually even after engaging in CL, especially when during CL, they had just one person explaining and working on tasks on behalf of the group.

The results from the observation schedule as depicted in appendix I, showed that the ability to keep time is low and the ability to adhere to ground rules and Level of commitment to understanding ledgers is high. Furthermore, it was observed that the Use of proactive communication (eye contact) is both medium and high, while the ability to paraphrase ideas on handling ledgers and the Ability to clarify points/solutions medium and high, respectively. These findings are consistent with the assertions by Liu, (2010) that, having members participate in decision making in collaborative learning, the group is able to identify creative and innovative solutions to the problems and this can lead to high achievement in accounting. It is vital not only to concentrate on the results of their conversations, but also to how students take decisions, including how they can assess and account for the information they have accessible individually, in order to increase the learner's decision-making capacity.4.8.3 Interpersonal skills, Conflict Management and Learner Achievement in Accounting.

The field results of teachers on conflict management and learner achievement in accounting are presented in Table 4.13.

Table 4.13: Conflict Management

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Learners acquire skills on resolving conflicts when they engage in arguments e.g. on time keeping and settle them on their own without teacher's intervention	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03
Once a group is able to resolve conflicts, it's able to achieve groups' goals as they work effectively without any hindrances or interruptions	0	1(16.67)	2(33.33)	3(50)	3.47	1.25
CL equip learners with conflict management skills that they can use to handle other collaborations in the future in accounting as well as their future work as professionals	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03

The results in Table 4.13 show that 66.66% of the teachers agreed that learners acquire skills on resolving conflicts when they engage in arguments, e.g. on timekeeping and settle them on their own without the teacher's intervention while 33.34% disagreed with the survey question. Those who agreed indicated that through CL learners are able to argue out their points out and, disagree on matters pertaining the tasks they are handling but finally come to an agreement. They also engage in discussing how to carry out groups' activities, disagree on some issues for example on time and who guides the group, but are able to resolve such conflicts on their own. Those who disagreed argued

that when learners have disagreement in groups, the groups may end up splitting and fail to resolve certain conflicts. This could be as a result of some existing tension between some members in the group. The mean score of the survey question was 3.21 with a standard deviation of 1.03. This signified that the majority of the teachers agreed with the survey question but with varying views.

Likewise, results in Table 4.12 indicated that 83.33% of the teachers agreed that once a group can resolve conflicts, it's able to achieve the groups' goals as they work effectively without any hindrances or interruptions while 16.67% disagreed with the survey question. Those who agreed said it was simple for students to work together in projects and to succeed as a group after disagreements between them were resolved. Those who disagree indicated that if students fail to address issues that develop between group members, it is difficult for students to work together as a group. The mean survey score was 3.47, with a standard score of 1.25. This means that most students are well structured into groups and are able to resolve conflicts that arise and keep focusing on group goals.

In addition, 66.66% of the teachers agreed that CL equip learners with conflict management skills that they can use to handle other collaborations in the future in accounting as well as their future work as professionals while 33.34% disagreed with the statement. Those who agreed stated that through collaborative learning, learners acquire conflict management skills and understand each other while those who disagreed argued that some conflicts within members in the group can only require teacher's intervention to be resolved therefore teachers should supervise these groups and resolve conflicts that may arise. The mean score of the survey question was 3.21 with a standard deviation of 1.03. This implied that use of Collaborative learning

activities in learning accounting equipped learners with good conflict management skills enabling work effectively as a group and enhance their achievement.

Further, the findings indicated that most of the learners agreed that through resolving conflicts in CL, learning occurs effectively while only a few disagreed with the survey question. Those who agreed stated that they set ground rules for the collaborative learning and in case of any disagreements they resolve and are able to work effectively. Those who disagreed stated that when some conflicts arise among learners in groups they may discourage them or create tension among the learners making the group not to work effectively. Finally, the results from the observation schedule as depicted in appendix I, showed that, the Level of learner consultation and Progress in handling tasks is both medium and high while the ability to question collaboratively is low. It was observed ability to use constructive critique is low and use of appropriate interruption and the ability to mediate conflicts is medium.

The results above are in agreement with the insights from Oakley et al (2004) & Johnson & Johnson (2014) that states one of the most prevalent causes of group conflict is when team members refuse to complete their fair share of the job, or when a team member refuses to participate or even tries to undermine the effort. These disagreements can be avoided by having all members of the group write and sign a set of ground rules that everyone agrees to obey. These rules would help curb the problem of time wastage, and lack of commitment or contribution by some of the group members, adherence to these rules would reduce issues of conflicts within the group and lead to high achievement in accounting.

4.9 Promotive Interaction and learner achievement in accounting

The study sought to examine influence of Promotive interaction on learner achievement in accounting. Collaborative learning is viewed as a socio-cultural resource and mediation tool in which learning activities include knowledge exchange and group social interaction (Mercer & Howe, 2012). Therefore, Learners need to be friendly, helpful and cooperative in collaborative groups so as to achieve good results in accounting (Dzemidzic, *et al*, 2019). Teachers were to respond to statements on; Resource sharing, problem solving and learner support. The responses were rated on a four Likert Scale as (4-strongly agree, 3- agree, 2-Disagree and 1-strongly disagree). The findings are as presented in tables 4.14, 4.15 and 4.16.

4.9.1 Promotive interaction, Resource Sharing and Achievement in Accounting

The field results of teachers on resource sharing and learner achievement in accounting are presented in Table 4.14.

Table 4.14: Resource Sharing

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
CL enable learners to share the available resources in trying to solve the tasks assigned to them e.g. Revision books on ledgers	1(16.67)	1(16.67)	3(50)	1(16.67)	3.27	1.05
Learners share ideas , skills and opinions on how to classify items for recording in ledger accounts	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03
CL creates interdependence among learners as they rely on each other's' support in terms of resources and approval on where to enter certain transactions.	1(16.67)	1(16.67)	3(50)	1(16.67)	3.27	1.05

The study results presented in Table 4.14 indicates that 66.67% of the teachers agreed that CL enable learners to share the available resources in trying to solve the tasks assigned to them, e.g. Revision books on ledgers while 33.34% while disagreed with the survey question. Those that agreed stated that it is possible for learners in CL to share learning materials available and use them boost their understanding on ledgers as a group, while those that disagreed stated that if these materials are not available to the learners, the whole group is rendered ineffective. The mean score of the survey question was 3.27 with a standard deviation of 1.05. This implied that the majority of the teachers agreed that CL enable learners to share the available resources in trying to solve the tasks assigned to them, e.g. Revision books on ledgers.

In addition, 66.66% of the teachers agreed that Learners share ideas, skills and opinions on classifying items for recording in ledger accounts while 33.34% disagreed with the survey question. Those who agreed stated that learners in collaborative learning discuss transactions for ledger accounts first and share ideas on how they should enter them

into ledger accounts. This helps them understand the concepts better. Those who disagreed stated that learners may work on tasks hurriedly as they try to use time allocated for the activity and fail to take enough time and share their opinions on how to handle tasks in accounting. The mean score of the survey question was 3.21, with a standard deviation of 1.03 implying that a majority of the teachers agreed Collaborative learning creates an environment where learners can share and advice each other how to handle tasks in accounting resulting to high achievement.

Further, it was found 66.67% of the teachers agreed that CL creates interdependence among learners as they rely on each other's support in terms of resources and approval on where to enter certain transactions while 33.34% disagreed with the survey question. Those that agreed cited that learners in the group seek each other's' approval on how to treat the different transactions in ledgers, this gives them the confidence that they are on the right track hence boosting their morale on the particular tasks. Those who disagreed stated that too much interdependence may lower the individual learner's confidence when they are now assigned to work on these tasks individually, and this may affect their achievement. The mean score was 3.27, with a standard deviation of 1.05 indicating that there is a high level of interdependence among learners in terms of resource and idea sharing which boosts their achievement in collaborative learning.

As per the field results, most of the learners agreed that sharing opinions in CL equip them with more knowledge on accounting while a third disagreed with the statement. Those who agreed stated that through CL, they acquire new and more knowledge on skill to use in handling ledgers while those who disagreed stated that in most cases, learners in CL only share or repeat what the teacher taught and may not add any additional ideas, implying that a bigger percentage of the students agreed sharing

opinions in CL equip them with more knowledge on accounting. From the observation schedule it was observed that Interest in praising others' contribution was high, interest in respecting other learners' ideas was found to be both medium and high, the ability to encourage others make contribution was medium. Moreover, it was observed that ability to celebrate success as a group and Interest in explaining concepts to others was high, while the Ability to acknowledge others' ideas was both medium and high. The results are affirmed by the conclusion by Acikalim (2014) who noted that use of discussion in learning encourages high levels of interaction and bonding among learners enabling them to be free with each other and share all resources available effectively.

4.9.2 Promotive interaction, Problem Solving and Learner Achievement in Accounting

The field results of teachers on problem solving and learner achievement in accounting are presented in Table 4.15.

Table 4.15: Problem Solving

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
Problem solving enhance critical thinking as learners try to understand concepts in ledger accounts	0	2(33.33)	0	4(66.67)	3.52	1.29
Task completion is done effectively when all learners participate in finding solutions	0	2(33.33)	1(16.67)	3(50)	3.29	1.07
Learners in the group challenge each other to develop the right problem solving skills by having everyone contributing ideas.	0	1(16.67)	1(16.67)	4(66.67)	3.37	1.23

As depicted by results on Table 4.15, 66.67% of the teachers agreed that problem solving enhance critical thinking as learners try to understand concepts in ledger accounts while 33.33% disagreed with the survey question. Those that agreed stated

that when learners in CL are assigned challenging tasks, they engage in reasoning as they try to work out on these tasks and this can boost their critical thinking ability, because they ensure they get solutions to all tasks assigned to them. Those who disagreed stated that some learners may not engage so much into critical thinking especially when they rely on some individuals to work on tasks assigned to them as a group. The mean score of the survey question was 3.52 with a standard deviation of 1.29 indicating that collaborative learning strategy can improve learners' critical thinking ability leading to high achievement in accounting.

Findings as per table 4.15 also indicated that 66.67% of the teachers agreed that task completion is done effectively when all learners find solutions while 33.33% disagreed with the statement. Those who agreed stated that when all learners get involved in collaborative learning within their specific groups, they all make contributions and able to work on tasks effectively. Those who disagreed stated that it's not a guarantee that the learners in the group will have tasks on ledgers worked on accurately, as it depends with the level of understanding of the individual members within the group as well as their level of intelligence/ability. Learners in the group therefore need to be grouped according to ability, in that weak learners are mixed with bright learners. The mean score was 3.29, with a standard deviation of 1.07 indicating that involvement of all learners within the group on groups' tasks yield good results leading to high achievement in accounting.

Further, the study found that 83.34% of the teachers agreed that learners in the group challenge each other to develop the right problem-solving skills by having everyone contributing ideas while 16.67% disagreed with the survey question. Those who agreed stated that learners get to challenge each other in the group to make contribution on

how to solve tasks in ledgers, and this helps equip them with good problem solving skills. Those who disagreed stated that if a group is made up of more bright learners and less weak learners, the weak learners may feel discouraged if they are unable to make contribution, therefore they would need much support from the bright students and challenged in positive ways. The mean score was 3.37, with a standard deviation of 1.23 indicating that collaborative learning is a good strategy to use in learning ledgers as learners are able to develop problem solving skills as they challenge each other to make contribution in the group on groups' tasks.

Moreover, the study found that most of the learners agreed that CL enable them to acquire problem-solving skills when they work on tasks and find solutions while a third disagreed with the survey question. Those that agreed stated that it is easier for them to solve tasks in ledgers after they have engaged in CL than when they only do individual learning. Those who disagreed with the statement highlighted that weak learners may be left out in case the group is made up of bright students who don't take time to explain concepts to the weak ones, making them not understand concepts clearly and be able to comfortably work on tasks in ledgers individually, implying that CL activities will equip most of the learners with good problem solving skills in accounting.

From the observation schedule, it was observed that the ability to raise concerns in challenging areas and the ability to contribute to design & task processing actively was medium, while Level of appreciating members' suggestions was low. These results are in agreement with the findings by Flood (2015); Kong (2014) which indicated that, in collaborative learning, through the interactions the group members are able to find out the different ways of solving problems and by adhering to the teams' agreed

mechanism, every group member can contribute to solving the problem by building the shared meaning and the information they have. Problem solving develops cognitive abilities that help Business studies learners to understand the accounting principles as well as emphasizes application of mathematical knowledge and high level of creativity resulting to high achievement by learners in accounting.

4.9.3 Promotive interaction, Learner Support and Achievement in Accounting

The field results of teachers on learner support and learner achievement in accounting are presented in Table 4.16.

Table 4.16: Learner Support

Statement	Strongly disagree	Disagree	Agree	Strongly Agree	Mean	SD
	F (%)	F (%)	F (%)	F (%)		
In CL learners encourage and motivate each other by praising and appreciating each other's opinions	1(16.67)	1(16.67)	2(33.33)	2(33.33)	3.21	1.03
CL builds a sense of cohesion and trust with one another when learners work on tasks together	0	1(16.67)	2(33.33)	3(50)	3.47	1.25
Learners build confidence in giving individual opinions and support when their contribution is recognized	1(16.67)	1(16.67)	3(50)	1(16.67)	3.27	1.05

The results depicted in Table 4.16 shows that 66.66% of the teachers agreed that in CL, learners encourage and motivate each other by praising and appreciating each other's opinions and 33.34% disagreed with the survey question. Those who agreed cited that learners appreciate each other's' contribution in the group and this motivates them to develop more interest in working as a group. Those who disagreed stated that some learners may not remember to praise or appreciate others in the group, and this may make especially those who participate more in the group's activities feel demotivated

and lack commitment. Learners should however be taught on the need to appreciate each other's' contribution in the group by listening attentively to each other and recognizing their commitment. The mean score was 3.21 with a standard deviation of 1.03 indicating that a bigger percentage of teachers recognized the importance of CL in enabling learners feel appreciated for their effort and encouraged to work harder.

In addition, 83.33% of the teachers agreed that CL builds a sense of cohesion and trust with one another when learners work on tasks together while 16.67% disagreed with the statement. Those who agreed stated that learners trust their peers' contribution and handle tasks as agreed by the members, meaning they trust their peers in explaining concepts the right way, just as the teacher does. Those who disagreed stated that learners in the group may not trust their peers as far as explaining concepts in ledgers is concerned, as they would trust their teachers. The mean score of 3.47 and a standard deviation of 1.25 indicated that Teachers agreed that learners in CL embrace togetherness and trust among themselves in the group and believe in themselves as well as their peers. This level of confidence encourages them to work towards achieving group's goals leading to high achievement in accounting.

Finally, findings indicated that 66.67% of the teachers agreed that learners build confidence in giving individual opinions and support when their contribution is recognized and 33.34% disagreed with the statement. Those who agreed cited that confidence is key to learner achievement and when learners acquire this through interacting with others in CL, they are able to improve in performance as they believe in themselves and will try out tasks on ledgers even individually and score. Those who disagreed stated that CL can lower a learners' confidence especially when others don't recognize his/her contribution or laugh off contributions made by a particular student.

Learners should therefore be encouraged to appreciate and support each other's' contributions and correct each other in a positive way. The mean score of the statement was 3.27 with a standard deviation of 1.05. This implied that the majority of the teachers agreed that learners build confidence in giving individual opinions and support when their contribution is recognized.

Moreover, the study found that most of the learners agreed that in CL, learners acquire a sense of belonging when they support and encourage each other and this motivates them to contribute while only a quarter of the learners disagreed with the survey question. Those who agreed cited that the encouragement and guidance they get from their peers while working on tasks together motivates them and makes them develop interest in accounting enhancing high achievement while those who disagreed stated that they may get shy to ask questions from their peers and this may make them lack the support and the motivation to work in groups. This implied that majority of the learners agreed that in CL, learners acquire a sense of belonging when they support and encourage each other and this motivates them to contribute and make progress in their understanding of concepts in ledgers.

From the observation schedule, it was noted that the Ability to explain meaning to concepts in ledgers was both medium and high, while the Ability to assess members' contribution and the Ability to supervise each other's work & make necessary corrections was medium. These results are in support of the assertions by Laal and Ghodsi (2012); Laal and Ghodsi (2012) that, Collaborative learning that involves good interaction among the learners can create a positive learning environment in which learners support each other leading to high achievement in accounting. Participants in

small groups concentrates better on the tasks assigned due to the support from other group members as well as the individual motivation.

4.10 Inferential statistics

The section entails the correlation and regression analysis.

4.10.1 Correlation analysis

Table 4.17 presents the correlation analysis.

Table 4.17: Correlation Analysis

Variable		Learner achievement	Positive interdependence	Interpersonal skills	Promotive interaction
Learner achievement	Pearson Correlation	1.000			
	Sig. (2-tailed)				
Positive interdependence	Pearson Correlation	.501**	1.000		
	Sig. (2-tailed)	0.000			
Interpersonal skills	Pearson Correlation	.699**	.428**	1.000	
	Sig. (2-tailed)	0.000	0.000		
Promotive interaction	Pearson Correlation	.732**	.398**	.536**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	

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

Correlation analysis is a statistical technique for determining the degree of correlation between two numerical variables. In most cases, the researcher is more concerned with establishing whether the independent variables associate with the dependent variable Christensen, & Adrian, (2002). On a scale ranging from + 1, via 0 to -1, the correlation coefficient is calculated. When one measure rises in tandem with the other, the correlation is positive. On the other side, when one of the variable decreases as the other variable increases, then there is a negative association. There is no association when the

coefficient is 0. The correlation results depicted in Table 4.16 establishes that there is a positive and significant association between positive interdependence and learner achievement ($r=.501$, $p=.000$). Also, a positive and significant association exists between interpersonal skills and learner achievement ($r=.699$, $p=.000$). Furthermore, promotive interaction and learner achievement was found to have a positive and significant association ($r=.732$, $p=.000$). The correlation results support Scager, et al. (2016)'s assertions that each participant's effort is both required and indispensable for achieving the mutual goal, that each participant's contribution is unique, and that resources, roles, and responsibilities are shared, resulting in high accounting achievement.

4.10.2 Regression analysis

Regression analysis examines the relationship between variables. It is a set of statistical approaches for estimating associations between one or more independent variables and a dependent variable. Stevenson, Keele, and Elwert (2020). The components of regression analysis include the model fitness, analysis of variance and finally the regression coefficients. The model fitness is presented in Table 4.18.

Table 4.18: Model Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.538a	0.6402	0.596	0.222158

Predictors: positive interdependence, interpersonal skills, promotive interaction

The results in Table 4.18, shows positive interdependence, interpersonal skills and promotive interaction were found to be satisfactory in explaining learner achievement.

This was supported by the coefficient of determination, also known as the R square of

0.6402 (64.02%). This means that positive interdependence, interpersonal skills and promotive interaction explain 64.02% of the variations in Learner achievement. The researcher examined the analysis of variance. The analysis of variance (ANOVA) shows whether the independent variables are significant in explaining the dependent variable. In the current study, the independent variables were positive interdependence, interpersonal skills and promotive interaction, while the dependent variable was learner achievement. Hence, the analysis of variance (ANOVA) is presented in Table 4.19.

Table 4.19: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.812	3	5.604	127.36	.000 ^b
	Residual	7.279	164	0.044		
	Total	24.091	167			

Dependent Variable: Learner achievement

Predictors: positive interdependence interpersonal skills, promotive interaction

Table 4.19 indicates that the overall model was statistically significant. The results imply that positive interdependence interpersonal skills and promotive interaction were good predictors in explaining learner achievement. An F statistic of 127.36 and a reported p-value of 0.000, which was less than the traditional probability significance limit of 0.05, backed up these findings. This meant that positive interdependence, interpersonal skills, and promoter contact were important predictors of learner success. The findings are consistent with the conclusion by Resta and Laferriere (2007) that, positive interdependence as a design approach may encourage cooperation by creating interconnected tasks, responsibilities, and resources, resulting in shared engagement that leads to high accounting accomplishment.

The researcher also presented the regression of coefficients. The regression coefficients are estimates of unknown population variables that represent the relationship between a predictor variable and the responder. Therefore, the regression of coefficients is presented in Table 4.20.

Table 4.20: Regressions of Coefficient

Model	Unstandardized Coefficients	Standardized Coefficients	Beta	t	Sig.	
	B	Std. Error				
	(Constant)	-0.174	0.201		-0.866	0.387
1	Positive interdependence	0.121	0.044	0.126	2.751	0.036
	Interpersonal skills	0.098	0.021	0.420	4.679	0.000
	Promotive interaction	0.107	0.049	0.169	2.184	0.001

Dependent Variable: Learner achievement

Table 4.20, indicates that a positive interdependence was found to be positively and significantly related to Learner achievement ($\beta=.121$ $p=0.036$). This was supported by a calculated t-statistic of 2.751 that is larger than the critical t-statistic of 1.96. This indicated that a unitary rise in positive interdependence would result in a 0.121 unit gain (improvement) in learner success, assuming all other variables remained constant. Moreover, Interpersonal abilities were shown to be favorably and substantially associated to learner achievement ($=.098$ $p=0.000$) in the research. A computed t-statistic of 4.679, which is higher than the necessary t-statistic of 1.96, backed up this results. This meant that a 0.098-unit gain in Interpersonal skills would result in a 0.098-unit increase (improvement) in learner achievement, assuming all other parameters remained constant.

Finally, according to the findings of the study, promotive interaction is favorably and substantially associated to learner achievement ($=.107$ $p=0.001$). A computed t-statistic

of 2.184, which is more than the required t-statistic of 1.96, confirmed this. This meant that a unitary increase in promotional contact would result in a 0.107-unit increase (improvement) in learner accomplishments while all other parameters remained constant. The results concur with the findings of Slavin (2011), who indicated that a positive relationship exists between interdependence and achievement. In addition, the results are in agreement with the assertions by Keyton (2011) that, collaborative learning helps learners achieve their objectives, resulting in a successful group performance in accounting.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter presents summary of the findings, conclusions, recommendations for practice, for policy action and for further research. Each section is comprehensively illustrated.

5.2 Summary of the study

This study evaluated influence of positive interdependence, impact of interpersonal skills and effect of promotive interaction on learner achievement in accounting. Based on Kolb's Experiential Learning Theory, Solomon Four quasi experimental design was applied to gather data regarding the influence of collaborative learning strategy on learner achievement in accounting, which was measured in terms of recorded transactions, balanced ledgers and improved scores on achievement tests. The study targeted 4 principals, 6 teachers and 161 Business Studies learners in form three. Using purposive sampling, four schools out of 36 schools were selected to represent Igembe-Central sub-county. Data was collected from Business Studies principals and students using self-administered questionnaires. Principals were interviewed; students were observed in class using an observation schedule; and learners were given pre-test and post-test achievement exams. Data analysis process generated frequency distributions with percentages, cross-tabulations and multiple linear regressions, including *Beta* weights, t-statistic, *p*-value, post-hoc analysis and ANOVA for interpretation and discussions.

The study findings established that pre-tests on the achievement tests had no statistical significant difference but the post-test indicated a statistical significant difference between the groups. The means for the groups that engaged in Collaborative learning (E1 and E2) were higher for the post-tests than the means for the groups that did individualized learning (C1 and C2). This indicated that Collaborative Learning strategy had an influence in enhancing achievement in accounting. It was affirmed that collaborative learning creates a better opportunity for learning by involving every learner in entering the different items in ledger accounts. Collaborative learning fosters a learning environment that supports more responsible learners, as every learner in the group is accountable for the group's success. Furthermore, collaborative learning stimulates learners to learn ledgers when given the freedom to share their views on how certain transactions should be recorded. The study indicated that collaborative learning helps bring a clear and comprehensive understanding of concepts in ledger accounts, enabling learners to fill in the correct items and balance accounts accurately. This was affirmed by the high mean recorded by learners in the experimental groups as compared to learners in control groups. Moreover, collaborative learning empowers learners to enhance performance in ledgers as handling tasks together promotes their critical thinking capacities.

The first objective of the study was to establish the influence of positive interdependence on learner achievement in accounting. The correlation results showed that a positive and significant association exists between positive interdependence and learner achievement ($r=.501$, $p=.000$). Moreover, it was found that positive interdependence is positively and significantly related to learner achievement ($\beta=.121$, $p\text{-value}=0.036$). The results signified that a unitary increase in positive

interdependence enhance learner achievements by 0.121 units. The study intimated that positive interdependence stimulates the interest of learners as they work on tasks as a group and the weak students can get support and assistance from peers. It was found that under positive interdependence, learners strive to make contributions in groups' activities as the success of individual learners is based on the entire group's success.

The correlation results indicated that a positive and significant association exists between interpersonal skills and learner achievement ($r=.699$, $p=.000$). Furthermore, the regression results indicated that interpersonal skills are positively and significantly related to learner achievement ($\beta=.098$, $p\text{-value}=0.000$). The regression results signified that a unitary increase in interpersonal skills would enhance the learner achievements by 0.098 units. Under the interpersonal skills, the learner's achievement is enhanced by enabling learners to share ideas and understand each other by explaining why certain items should be recorded on either debit or credit sides. Through the learner interactions, concepts learned in ledgers are created, leading to high levels of understanding.

The study results on the correlation analysis indicated that promotive interaction and learner achievement is positively and significantly associated ($r=.732$, $p=.000$). The regression results showed that promotive interaction is positively and significantly related to learner achievement ($\beta=.107$, $p\text{-value}=0.001$). The results implied that a unitary increase in promotive interaction would enhance learner achievements by 0.107 units. The promotive interaction empowers learners to share the available resources to solve the tasks assigned to them e.g. revision books on ledgers. Moreover, promotive interaction facilitates learners to acquire problem-solving skills when they work on tasks and find solutions.

5.3 Conclusion

It is concluded that collaborative learning promotes a good learning environment that promotes more responsible learners, as every learner is given the opportunity to be involved in the learning process. It is also concluded that collaborative learning motivates learners to learn ledgers when given the liberty to share their views on how certain transactions should be recorded. The study further concludes that collaborative learning helps bring a clear and broad understanding of concepts in ledger accounts, enabling learners to fill in the right items and balance accounts accurately. Collaborative learning enables learners to improve on performance in ledgers as handling tasks together promotes their critical thinking capabilities. Learning ledgers through collaborative enable learners to encourage and enlighten each other, making tasks appear easier.

The study concludes that positive interdependence is positively and significantly related to learner achievement. Positive interdependence includes learners in the groups being interdependent in that they rely on each other to develop knowledge and acquire success. Positive interdependence also incorporates the learners developing a positive interest in working on tasks as a group by enjoying and experiencing the support and assistance from peers. Under the positive interdependence, learners strive to contribute to groups' activities as the success of individual learners is based on the success of the entire group. The learners can share various ideas on how to enter items in ledger accounts accurately, enhancing the achievement.

The study concludes that an interpersonal skill is positively and significantly related to learner achievement. Collaborative learning improves learners' social skills such as listening and communication skills when learners listen attentively to each other and

take turns in contributing. The learners' achievement is enhanced by enabling learners to share ideas and understand each other by explaining why certain items should be recorded on either debit or credit sides. Through the learner interactions meaning to concepts learnt in ledgers is created, leading to high levels of understanding. The study concludes that allowing learners to share views leads to various ideas on recording items on ledger accounts. It is also concluded that interpersonal skills promote independence in reasoning, making learners acquire decision-making skills.

The study concludes that promotive interaction is positively and significantly related to learner achievement. It is also concluded that promotive interaction enables learners to share the available resources to solve their assigned tasks, e.g. revision books on ledgers. Learners share ideas, skills and opinions on how to classify items for recording in ledger accounts. The study concludes that promotive interaction creates interdependence among learners as they rely on each other's support in terms of resources and approval on where to enter certain transactions. The sharing of opinions in promotive interaction equips learners with more knowledge on accounting. Moreover, promotive interaction enables learners to acquire problem solving skills when they work on tasks and find solutions. The study further concludes that in promotive interaction, learners acquire a sense of belonging when they support and encourage each other, motivating them to make contributions.

5.4 Recommendations

On the basis of the findings and the conclusions, a number of recommendations can be made. The recommendations are presented in terms of recommendations for practice, recommendations for policy and recommendations for further studies.

5.4.1 Recommendations for Practice

- i. Business Studies teachers to ensure that learners get engaged in collaborative learning activities so as to create a better opportunity for learning whereby every learner in class will be involved in the learning process. This will help bring a clear and wide understanding of concepts in ledger accounts, enabling learners to fill in the right items and balance accounts accurately as well as improve performance in ledgers as handling tasks together promotes their critical thinking capabilities. Learners will also feel motivated as they encourage and enlighten each other in the group making tasks appear easier.
- ii. Collaborative learning promotes independence in reasoning, making learners acquire decision making skills. Teachers need to emphasize much of the developing social skills of the learners. Developing the learners' social skills such as listening and communication skills enables them to listen attentively, thus promoting their achievement.
- iii. The study recommends that teachers enable learners to share the available resources to solve their assigned tasks. Learners should also be encouraged to share ideas and opinions on classifying items for recording in ledger accounts. Sharing opinions equip learners with more knowledge of accounting.
- iv. Teachers to incorporate the weak students with the intelligent ones during Collaborative learning. Combining the weak and bright students will motivate the weak students and they will experience a sense of belonging when they get support and will be encouraged by others.

- v. The study recommends that principals and teachers set aside some extra time in the school program and accommodate Collaborative learning activities in order to have learners doing group discussions and help each other understand accounting concepts hence leading to high achievement.

5.4.2 Recommendations for Policy

- i. The study recommends that policy actors and curriculum planners should ensure the implementation of collaborative teaching strategy as one of Learner centered approaches in the teaching learning process. This Strategy stimulates cognitive activities; promote knowledge retention and higher academic achievement in accounting among students in Secondary schools in Kenya.
- ii. Additionally, the study recommends restructuring of accounting concepts in Business studies curricular in the light of existing social and economic position of the country, which will lead learners getting equipped with social skills acquired through Collaborative learning. This will therefore make teachers and learners adopt this learning strategy effectively leading to acquisition of these skills as well as high achievement in accounting.

5.4.3 Recommendations for Further Studies

Based on the study findings, it was found that positive interdependence, interpersonal skills and promotive interaction explain 64.02% of the variations in learner achievement. Thus, another study is suggested to be conducted to examine other factors that influence learner achievement. The study would examine the influence of teacher's competency, availability of teaching resources and role of Information and communications technology on learner

achievement. Conducting the study will be critical in comparing the results and further identify more research gaps for future studies.

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APPENDICES

Appendix I: Observation Schedule

This is an observation schedule for learners for measuring occurrences of the elements of Collaborative learning (i.e. Positive interdependence, Interpersonal skills and Promotive interaction)

SECTION A

Classroom demographic information					
Course/Level			Date		
Observer			Subject teacher		
Number of students in class					
Instructional context					
Group specifics					
Group name			Seating arrangement		
Number of students in a group		Female		Male	
Collaborative Task (s)					

SECTION B

Record and Measure of elements/indicators of collaborative learning in intervals of twenty minutes

Time interval (In min)	Element/Indicator	Low 0-39%	Medium 40-59%	High 60 & above
0-20	Positive interdependence			
	• Action substitutability			
	Contribution of all members in recording items on ledger accounts			
	Interest in volunteering to balance the ledger accounts			
	Interdependence level of members in entering transactions accurately			
	• Positive cathexis			
	Bonding levels of learners in the group			
	Level of engagement with task goals in ledgers			
Interest towards groups' activities				

• Character inducibility			
Level of motivation to joint success			
Ability to move towards same direction			
Focus of learners on groups' goals			
Interpersonal skills			
• Decision making			
Ability to negotiate respectfully			
Ability to choose between alternative ideas			
Ability to listen attentively to each other			
• Conflict management			
Ability to keep time			
Ability to adhere to ground rules			
Level of commitment to understanding ledgers			
• Verbal communication			
Use of proactive communication (eye contact)			
Ability to paraphrase ideas on handling ledgers			
Ability to clarify points/ solutions			
Promotive interaction			
• Learner support			
Interest in praising others' contribution			
Interest in respecting other learners' ideas			
Ability to encourage others make contribution			
• Problem solving			
Level of exchanging opinions			
Ability to Successful handle tasks in ledgers			
Interest in listening to each other's' thoughts			
• Resource sharing			
Ability to make presentations			
Ability to Stimulate others to share ideas			
Ability to extract ideas from group members			

20-40	Positive interdependence			
	• Action substitutability			
	Interest in forming relationships between members			
	Interest in working on tasks to completion			
	Level of organization in handling of tasks			
	• Positive cathexis			
	Willingness to participate in groups' tasks			
	Interest towards groups' activities			
	Level of idea sharing			
	• Character inducibility			
	Ability to listen and agree to similar ideas			
	Ability to appreciate other learners' contributions			
	Order level in solving problems in group			
	Interpersonal skills			
	• Decision making			
	Level of learner consultation			
	Progress in handling tasks			
	Ability to question collaboratively			
	• Conflict management			
	Ability to use constructive critique			
	Use of appropriate interruption			
	Ability to mediate conflicts			
	• Verbal communication			
	Ability to use names while addressing each other			
	Ability to invite others to make contribution			
	Communication levels among learners			
	Promotive interaction			
	• Learner support			
Ability to celebrating success as a group				
Interest in explaining concepts to others'				
Ability to acknowledge others' ideas.				

	<ul style="list-style-type: none"> Problem solving 			
	Ability to raise concern on challenging areas			
	Ability to actively contribute to design & task processing			
	Level of appreciating members' suggestions			
	<ul style="list-style-type: none"> Resource sharing 			
	Ability to explain meaning to concepts in ledgers			
	Ability to assess members' contribution			
	Ability to supervise each other's work & make necessary corrections.			

Appendix II: Questionnaire for Business Studies Teachers

For collecting data on influence of Collaborative Learning (CL) strategy on learner achievement in Accounting.

Dear respondents

This questionnaire is meant to collect data on influence of collaborative learning strategy on learner achievement in Accounting. All the data will be used for the purpose of the study only. kindly respond to all items by placing a tick in the appropriate space. Your co-operation in filling in this questionnaire to completion will be highly appreciated. For confidentiality, do not indicate your name on this questionnaire.

Sub- County: _____ Zone: _____ School: _____
Date: _____

SECTION A: Demographic information of the respondents

Kindly give the appropriate response by ticking in the spaces provided.

NO	QUESTIONS	RESPONSES
1	Gender	Male () Female ()
2	Age bracket (years)	20-29 () 30-39 () 40-49 () 50-60 ()
3	Highest Qualification	Bachelor () Masters ()
4	Experience (Years)	1-5 () 6-10 () 11-15 () 16-20 () Over 20 ()
5	Experience in teaching Business Studies (years)	1-5 () 6-10 () 11-15 () 16-20 () Over 20 ()

SECTION B: GENERAL INFORMATION ON COLLABORATIVE LEARNING STRATEGY.

Key 1: strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

Collaborative learning	4	3	2	1
Collaborative learning creates a better opportunity for learning by involving every learner in entering the different items in ledger accounts				
A collaborative learning environment promotes more responsible learners as every learner in the group is accountable for the group's success				
CL motivates learners to learn ledgers when given freedom to share their views on how certain transactions should be recorded				

Reasons for agreeing.....

Reasons for disagreeing.....

Suggestion for improvement.....

SECTION C: COLLABORATIVE LEARNING, POSITIVE INTERDEPENDENCE AND LEARNER ACHIEVEMENT IN ACCOUNTING

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

POSITIVE INTERDEPENDENCE	4	3	2	1
Action substitutability				
Learners in the groups are interdependent in that they rely on each other to develop knowledge and acquire success				
Learners develop positive interest in working on tasks as a group by enjoying and experiencing the support and assistance from peers				
There is the aspect of responsibility among the learners in the group as each learner is committed to entering correct t items on ledger accounts				
Character inducibility				
Learners experience positive influence from group members in working on tasks in ledgers, where each learner feels the need to make contributions				
Learners encourage each other to be involved in the groups' activities by challenging each other to try out tasks and appreciating their contribution				
Learners interest in recording items on ledgers is promoted as they are able to solve tasks together or find solutions to challenging areas in accounting.				
Positive cathexis				
Learners have their efforts directed towards achieving the groups' goals by working hard collaboratively and ensuring accurateness in doing ledgers				
A strong bond is created among learners working in CL environment as they are seen to care for each other by clarifying ideas for better understanding.				
CL encourages sharing of ideas and unity in working on tasks by learners giving each other a chance to contribute and make conclusions as a group.				

Reasons for Agreeing.....

Reasons for Disagreeing.....

Suggestion for improvement.....

SECTION E: COLLABORATIVE LEARNING, INTERPERSONAL SKILLS AND LEARNER ACHIEVEMENT IN ACCOUNTING

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

INTERPERSONAL SKILLS	4	3	2	1
Verbal communication				
Learners are able to share ideas and understand each other by explaining why certain items should be recorded on either debit or credit sides				
Through the learner interactions meaning to concepts learnt in ledgers is created leading to high levels of understanding				
Learners are given an opportunity to share views leading to a variety of ideas on how to record items on ledger accounts.				
Decision making				
Through CL learners bring more resources to the group when they all get involved in the decision making process				
Learners come up with creative and innovative solutions to problems when they reason together and challenge their thinking ability.				
The individual learners are equipped with decision making skills when they come up with solutions to handling tasks in accounting and agree on them.				
Conflict management				
Learners acquire skills on resolving conflicts when they engage in arguments e.g. on time keeping and settle them on their own without teacher's intervention				
Once a group is able to resolve conflicts, it's able to achieve groups' goals as they work effectively without any hindrances or interruptions				
CL equip learners with conflict management skills that they can use to handle other collaborations in the future in accounting as well as their future work as professionals				

Reasons for agreeing.....

Reasons for disagreeing.....

Suggestions for improvement.....

SECTION F: COLLABORATIVE LEARNING, PROMOTIVE INTERACTION AND LEARNER ACHIEVEMENT IN ACCOUNTING

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

PROMOTIVE INTERACTION	4	3	2	1
Resource sharing				
CL enable learners to share the available resources in trying to solve the tasks assigned to them e.g. Revision books on ledgers				
Learners share ideas , skills and opinions on how to classify items for recording in ledger accounts				
CL creates interdependence among learners as they rely on each other's' support in terms of resources and approval on where to enter certain transactions				
Problem solving				
Problem solving enhance critical thinking as learners try to understand concepts in ledger accounts.				
Task completion is done effectively when all learners participate in finding solutions				
Learners in the group challenge each other to develop the right problem solving skills by having everyone contributing ideas.				
Learner support				
In CL learners encourage and motivate each other by praising and appreciating each other's opinions				
CL builds a sense of cohesion and trust with one another when learners work on tasks together				
Learners build confidence in giving individual opinions and support when their contribution is recognized				

Reasons for Agreeing.....

Reasons for Disagreeing.....

Suggestion for improvement.....

Appendix III: Questionnaire for Learners

For collecting data on influence of Collaborative learning (CL) strategy on learner achievement in Accounting.

Dear respondent

My name is Judy K. Mungeria, a teacher at Machungulu Secondary School and a post-graduate student at Nairobi University. I seek to collect data on influence of Collaborative learning (CL) strategy on learner achievement in accounting by use of this questionnaire. You are requested to kindly respond to the questions/statements given based on your experience in CL. Any information submitted will be confidential and used solely for research purposes.

SECTION A: Demographic information of respondents

Age (Years)		Gender	Male ()	Female ()
Year you joined this school		Number of Business Studies lessons you attend per week		
Frequency on use of Collaborative activities in learning ledgers in classroom per week				
Once () Two times () Three times () Over three times ()				

SECTION B: GENERAL INFORMATION ON COLLABORATIVE LEARNING (CL)

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

COLLABORATIVE LEARNING	4	3	2	1
CL helps in bringing a clear and wide understanding of concepts in ledger accounts enabling learners fill in the right items and balance accounts accurately				
CL enable learners improve on performance in ledgers as handling tasks together promotes their critical thinking capabilities.				
Learning ledgers through CL is motivating as learners encourage and enlighten each other making tasks appear easier.				

Reason for Agreeing.....

Reasons for Disagreeing.....

Suggestion for improvement.....

SECTION C: COLLABORATIVE LEARNING, POSITIVE INTERDEPENDENCE AND LEARNER ACHIEVEMENT IN ACCOUNTING

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

POSITIVE INTERDEPENDENCE	4	3	2	1
Learners work together in CI as one team with similar goals by working on assigned tasks in ledgers collaboratively				
All learners strive to make contribution in groups' activities as Success of individual learner is based on the success of the entire group				
Learners are able to share a variety of ideas on how to accurately enter items in ledger accounts .				

Reasons for Agreeing.....

Reasons for Disagreeing.....

Suggestion for improvement.....

SECTION D: COLLABORATIVE LEARNING, INTERPERSONAL SKILLS AND LEARNER ACHIEVEMENT IN ACCOUNTING.

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

INTERPERSONAL SKILLS	4	3	2	1
CL improves learners' social skills such as listening and communication skills when learners listen attentively to each other and take turns in contributing.				
CL Promotes independence in reasoning making learners acquire decision making skills				
Through resolving conflicts in CL, learning occurs effectively				

Reasons for Agreeing.....

Reasons for Disagreeing.....

Suggestions for improvement.....

SECTION E: COLLABORATIVE LEARNING, PROMOTIVE INTERACTION AND LEARNER ACHIEVEMENT IN ACCOUNTING.

Key 1: Strongly Agree 4: Agree 3: Disagree 2: Strongly Disagree 1

PROMOTIVE INTERACTION	4	3	2	1
Exchanging opinions in CL equip learners with more knowledge on accounting				
CL enable learners acquire problem solving skills when they work on tasks and find solutions				
In CL, learners acquire a sense of belonging when they support and encourage each other and this motivates them to make contributions				

Reasons for Agreeing.....

Reasons for Disagreeing.....

Suggestions for improvement.....

Appendix IV: Interview Schedule for Principals

For collecting data on management of collaborative learning activities in school and influence of Collaborative learning (CL) strategy on learner achievement in Accounting.

My name is Judy K. Mungeria, a teacher at Machungulu Secondary School and a post-graduate student at Nairobi University. This interview seeks to collect data on management and influence of Collaborative learning strategy on learner achievement in accounting. Your school has been selected, and you are humbly requested to reply to the questions that will be posed to you. The researcher assures you that any information you submit will be kept strictly confidential and used solely for research purposes.

Name of School: _____ **Sub-county:** _____ **Date:**

SECTION A: Demographic characteristics

Gender		Male			Female		
Age	Below 30	31-40	41-50	51-60			
Qualification	Diploma		Graduate		Post Graduate		
Experience (years)	<5	6-10	11-15	16-20	>20		

General questions on collaborative learning

1. Did you learn about collaborative learning in teacher's college? If yes, What was it about?
2. How do your teachers use Collaborative learning strategy in teaching form 3 accounting topics in your school?
3. In what ways do you think the learners will benefit from this learning strategy?
4. What are the limitations involved in using CL strategy in teaching and learning of accounting?
5. Based on previous experiences and what you have learnt from this interview, would you advice Business Studies teachers in your school to modify their teaching strategies for CL in any way? How can you make it more effective?

Appendix V: Introductory Letter



UNIVERSITY OF NAIROBI

COLLEGE OF EDUCATION AND EXTERNAL STUDIES

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL COMMUNICATION AND TECHNOLOGY

Telephone: 0724692079

P.O BOX 30197, 00100 NAIROBI

P.O BOX 92, 00902 KIKUYU

11TH June 2021

TO WHOM IT MAY CONCERN

SUBJECT: JUDY KARAMBU MUNGERIA. - REG NO: E60/9711/2018

This is to certify that **JUDY KARAMBU MUNGERIA. - REG NO: E60/9711/2018** is a student at the university of Nairobi, College of Education and External Studies in the school of Education, Department of Educational Communication and Technology. She is pursuing a course in Master of Education in Business Education. Her title is **Influence of Collaborative Learning Strategy on Learner Achievement in Accounting in Secondary Schools in Igembe Central Sub- County, Kenya.**

Any assistance accorded to her will be highly appreciated.

Yours faithfully,




PROF. JANE C. GATURU
CHAIRMAN,

DEPARTMENT OF EDUCATIONAL COMMUNICATION AND TECHNOLOGY

Appendix VII: Plagiarism Report

ORIGINALITY REPORT			
14%	13%	3%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
1	Submitted to Mount Kenya University Student Paper		2%
2	ir-library.ku.ac.ke Internet Source		1%
3	erepository.uonbi.ac.ke Internet Source		1%
4	erepository.uonbi.ac.ke:8080 Internet Source		1%
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6	Submitted to Kenyatta University Student Paper		1%
7	mafiadoc.com Internet Source		<1%
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