

**The use of cooperative learning strategies in pre-service secondary school teacher education at two state universities in Zimbabwe: A critical investigation**

**By**

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## **DECLARATION**

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I, Chingombe Shamiso Iline, declare that the thesis entitled, THE USE OF COOPERATIVE LEARNING STRATEGIES IN PRE-SERVICE SECONDARY SCHOOL TEACHER EDUCATION AT TWO STATE UNIVERSITIES IN ZIMBABWE: A CRITICAL INVESTIGATION, is my original work and all the sources used have been acknowledged.

.....  
S.I. Chingombe

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## **DEDICATION**

This thesis is dedicated to my treasured Agrippa and my kids Paul, Tinotenda, Aloisia and Auxillia Tadiwanashe.



## **ABSTRACT**

*The study critically investigated the use of cooperative learning strategies in pre-service secondary school teacher education at two state universities in Zimbabwe. It focused on Great Zimbabwe University and Midlands State University. The study was guided by the works of Levi Vygotsky, Reuven Feuerstein and the African concept of ubuntu. A qualitative phenomenological design was adopted. Interpretivist and the grounded theory were the paradigms used in this study. A grounded theory has the potential to generate new theories based on the data collected from participants. The research participants were five lecturers and ten students. Data collection instruments included two focus group discussions (FGD), five interviews, along with ten questionnaires. FGD were composed of three male students and seven female students. Interviews were carried out with one male and four female lecturers. In addition questionnaires were administered to ten students and instruments were triangulated to neutralize the weaknesses from the other instruments. Thematic analysis and Nvivo computational analysis were used as data analysis instruments. From the findings, it is evident that majority of participants broadly and unwittingly generalized the strategies being used by teacher educators in pre-service secondary school teacher education. The erroneous operationalization of cooperative learning (CL) in the context of group work by many participants led to the poor coverage of other strategies widely known. Technically, some participants failed to clearly identify the specific CL strategies, a clear indication of poor understanding of the concept of CL. The confusion on what CL actually meant was not just evident among students but also among some the lecturers. There were*

indications that there is need to complement CL with other teaching methods. CL was distinctive in ensuring that students with individual differences work harmoniously. Findings also clarified that CL creates a teamwork culture which inspires students to work collectively in order to achieve a common goal. CL has been valued for developing cognitive skills by both lecturers and students. Easy understanding can also be achieved when heterogeneous grouping is done. In the study, it also emerged that diverse ideas shared among students help to broaden the learning scope as CL stimulates students to work as ants on an anthill. Findings from participants revealed that CL enhances social skills as students from diverse background and cultures have the opportunity to form communal associations. In addition, CL was applauded for promoting critical thinking and problem-solving skills in both students and lecturers. Research outcomes similarly disclosed that CL reduces discrimination among learners. In implementing CL as modern-day pedagogy, one of the significant shortcomings that inhibited its efficacy was lack of clear standard guidelines on the grouping criteria. Findings have also revealed that CL groups in Zimbabwean universities are either non-scientific or non-standardised. The researcher recommends formalisation of CL approaches within the institutions to guide lecturers on proper implementation of CL. The Zimbabwe Council for Higher Education (ZIMCHE) also needs to reconsider the way they supervise institutions. They ought to come up with certain standards to guide lecturers in the implementation of CL. Further recommendations are that lecturer–student ratio should be rationalised. It is imperative that groups should consist of a manageable number of at most ten to enable students to be fully involved in discussions. The quality control department of universities should also ensure that some

*CL strategies are implemented correctly. Lecturers should ensure that all CL groups are monitored all the times so that students remain focused. The researcher proposes the ecological supportive learning and communalist enhanced learning theories. An ecological supportive learning theory denotes that the individual, society and the environment influence an individual's learning. The communalist enhanced learning theory is anchored on the social interdependence which promotes task, behavioural and goal interdependence.*

## **KEY TERMS**

- Cooperative learning
- Scaffolding
- Mediated learning
- ZPD
- Team work
- Individual accountability
- Positive interdependence
- Ubuntu
- Communitarianism
- Phenomenological
- Interpretivist

## **ABBREVIATIONS / ACROYNMS**

GZU	Great Zimbabwe University
MSU	Midlands State University
MKO	More Knowledgeable Others
ZPD	Zone of proximal development
CL	Cooperative learning
MLE	Mediated learning experience
FIE	Feuerstein's instrumental enrichment
FGD	Focus group discussion
IEP	Individualised educational plan
STAD	Student team achievement division
GI	Group investigation
TPS	Think- Pair-Share

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## **CHAPTER 1**

### **INTRODUCTORY ORIENTATION**

#### **1.1 Introduction**

Contemporary teaching methodologies disregard the traditional ones for their overemphasis on the role of the teacher. The present study focuses on a critical investigation of the use of cooperative learning strategies in pre-service secondary school teacher education at Midlands State University (MSU) and Great Zimbabwe University (GZU), state universities in Zimbabwe. This introductory chapter focuses on the background and significance of the study and a discussion on the research problem, research questions, aims, objectives of the study, as well as on the research design, research methodology and research methods that were to be used in this study. Finally, a summary of chapters in the study was provided.

#### **1.2 Background to the study**

The researcher is a former secondary school teacher who spent a decade at a special school for the hearing impaired before joining GZU as a teacher educator of pre-service students pursuing an honours degree in education. During this time, the researcher was stimulated by the differences noted in methodological approaches used in special schools and teacher training institutions. For instance, in the current educational programme, the Individualised Educational Plan (IEP) an intervention strategy that is essential to ensure that individuals with disabilities have appropriate educational planning to accommodate their unique instructional needs are met in an appropriate learning environment was replaced by cooperative learning (CL) (United States Department of Education, Office of Special Education Programs, 2007:4). The IEP philosophy discourages a 'one-size' fits all approach as it proposes an official teacher-pupil ratio of one to seven (1:7) for learners with hearing impairment. This makes it easier for teachers to meet the needs of individual students during the implementation of the IEP as children optimally benefit from the "regular" or mainstream classroom. As a result, it promotes teamwork between the students with disabilities and those without.

Living in the 21<sup>st</sup> century is influencing the way human beings interact with their colleagues and learn together. Twenty-first century competencies bring to the fore initiatives to enhance creative connections through the engagement of good team work. Teamwork supersedes the traditional classes that involved students who work competitively to determine who is best or individualistically without caring for other's performance (Belmekki & Kebiri, 2004:29). Thus, teamwork promotes CL which in turn promotes students' responsibility for their own learning as well as the learning of others (Chadha, 2013:50).

In the years leading to the Second World War, it was found that working in groups was better in quality approach as well as more effective and productive than working individually (Alenka, 2015:132). Teachers give students the ladder to higher understanding, yet students themselves must climb (Slavin, 2003:257). In support of the above view, Mthiyane (2014:140) suggests that getting learners to become actively engaged and responsible for their own learning in class community enhances creativity and innovativeness in the culture of learning. This suggests that students learn better if they have the full responsibility over their learning. Apparently, CL further situates learners at the beginning and at the end point of learning process (Siyakwazi & Siyakwazi, 2013:33). Thus, students need to be involved and consulted in solving learning problems.

Arends (2009:264) noted that a proposal about the idea of small problem-solving groups was made in 1916. These groups learnt searching for answers and solutions on their own by adopting democratic learning principles and interacting daily with one another. Slavin (2003:261), in like manner, maintains that students easily discover and comprehend difficult concepts better if they talk to each other about the problems under discussion. Dewey was interested in co-operative learning since he mentioned that a school should be a place to build on students' inner interests in their environment by enhancing interpersonal communication and encouraging group involvement (Aghazadeh & Karafkan, 2015:8). The argument made by Dewey in regard to CL is that, if teachers in training were to become socially responsible adults, they needed to participate in the planning and evaluation of their learning experiences in institutions.

Dooly (2008:21) suggests that students are responsible for one another's learning as well as their own and that reaching the goal implies that students have helped each other and learnt.

Dewey's ideas concur with Lewin's contributions to discussions on CL who argues that learning is grounded on the philosophies centred on the notion of teamwork and group interdependence and success (Tsay & Brady, 2010:81). The notion of team spirit emanated from the perspective of cooperative learning, a teaching methodology that involves a heterogeneous group of teachers in training who are responsible for others' learning of a common goal (Slavin, 2003:258). As a pedagogical practice, CL enables learners to optimally maximise their learning and that of their counterparts. As a methodology, CL aims at consolidating classroom events into social and academic practices and also advocates for humanitarian principles in relation to team work. This tends to reduce submissiveness while encouraging CL in which one individual's performance affects the whole group either positively or negatively.

During CL, teachers in training depend heavily on each other's skills and resources to enhance their own learning. Thus, an individual seeks an outcome that is beneficial to him or herself and beneficial to all other individuals with whom the person is cooperatively linked (Johnson & Johnson, 2014:841). Clearly there is a shift from the teachers' role of spoon feeding to independent learning where the learners take direct responsibility for their learning. Through CL students will easily discover and comprehend difficult concepts better if they talk about the problem in groups (Slavin, 2003:261). As a result, learners are obliged to be active participants in their learning endeavours for them to become achievers in education cycles.

While literature broadly admits that CL can be applied in any subject, Slavin, Sheard, Hanley, Elliot and Chambers (2013:4) conducted research on the effects of CL in mathematics learning in England. They established that CL is an appropriate pedagogy to promote numeracy. This quantitative study found that pupils in CL situations gained more than those taught using traditional methods such as lecture method and drilling. A research conducted by Jeela (2007:263) in Canada explored the experiences of

students who had attended a CL education programme confirmed the importance of cooperative learning. The study determined factors that made learning experiences more meaningful to learners. The findings suggested that CL is indeed more beneficial in making learning experiences more meaningful to learners.

Another case study was conducted by Beck, Witteck and Eilks (2010:163) in Germany, and the general conclusion was that a CL environment for solving open ended experimental tasks shows great promise for overcoming the lack of student motivation which is often reported in chemistry classrooms. The high potential for promoting active learning in chemistry learning was also researched by Campbell and Monk (2014:25). Their research addressed the issue of improved class participation and the engagement of students in lectures and tutorials throughout the course. Depaz and Moni (2008:11) in Australia conducted research on undergraduate pharmacology students and showed that there is evidence that suggests that small group work within disciplines is effective. Most students reported that peer teaching helped them to complete their assignment three percent more than working in expert panels.

In addition, Akhtar, Perven, Kiran, Rashid and Satti (2012:141) presented a study which set out to examine views about CL in the domain of group projects of graduating students in the Departments of Statistics and Economics of Arid Agriculture at the University of Rawalpindi in Pakistan. The results of this study suggest that students develop different attitudes towards teamwork as a result of their educational experiences. As a result, some students tend to benefit more from CL whilst others do not. Muraya and Kimamo (2011:726) noted that performance in biology at secondary school level in Kenya remains poor and one reason is that the teaching approach adopted was predominantly teacher-centred. In concurrence, Orora, Wachanga and Keraro (2005:1) investigated the effects of cooperative concept mapping teaching approach on secondary school students' achievement in Gucha district in Kenya. The results show that students exposed to cooperative concept mapping approach have significantly higher achievement than those taught through regular methods.



They concluded that a CL approach is an effective teaching approach which teachers should be encouraged to use. Musingafi and Rugonye (2014:58) investigated the usefulness of CL as compared to traditional competitive learning in the teaching and learning of history at secondary school. They concluded that, CL was very useful and more effective in teaching of history.

It has been noted that, after the pupils they teach, teachers are the most important resource in the education, sector and that no education system can be better than its teachers (Nziramasanga, 1999:148). This casts teachers as pivotal to the attainment of academic excellence by learners and that teachers have a crucial role in curriculum implementation. Nziramasanga (1999:448-449) clarifies this argument by showing how “many education programs, let alone reform programs have not succeeded simply because policymakers did not take into account the centrality of the teachers who implement the programs on the ground.” The success of any curriculum innovation thus rests largely with the teacher whose range of teaching skills has a bearing on the educational outcome of students. Such observations reveal the need for an interrogation of the methodological teaching strategies employed by teachers in the classroom.

Regarding teachers’ implementation of cooperative learning, Siegel (2005:339) explored how a mathematics teacher applied this method in a research-based model. The study revealed that the implementation of CL in schools is not a simple task and advocated the commitment of teacher educators in ensuring that CL tasks would not be a failure. Kazembe (2010:1) studied two groups of teachers in training who enrolled for a degree in chemistry teaching at a state university in Zimbabwe. One group comprised teachers in training who had completed ‘A’ level and the other group comprised teachers in training who had qualified through teacher training colleges. The two groups were taught by the same teacher educator but differed in the way they studied outside class. The ‘A’ level group preferred to study individually whilst the other one preferred to work cooperatively. The results showed that the group that employed CL strategies managed to elucidate the misconceptions and retention of concepts and factual information as revealed by assignments and tests scores. Subsequently, Bulut (2009:23) noted that CL

has been used effectively at the elementary and secondary levels but has only recently found its way to the college level. Literature has also shown that in countries throughout the world, CL has the potential to effect positively student achievement, motivation for learning , intergroup relations , critical thinking , problem solving and a host of other well- researched outcomes (Baloche and Brody 2017: 274 ). Through interaction students improve critical thinking skills and use other students` as well as teacher`s comments on their work to enhance their learning Sardareha and Saadb (2012:346). It is against this background that the researcher was prompted to critically investigate the use of CL in pre-service teacher education at two state universities, GZU and MSU in Zimbabwe.

### **1.3 Significance of the study**

Although the idea of teaching and learning is historically complex and contestable, traditionally, teaching predominantly advocated teachers to be the dispensers of knowledge which was supposed to be accepted by learners without criticism. Ning and Hornby (2014:108) carried out a study investigating the impact of CL on English learners. Findings suggested significant difference in favour of CL in improving motivation, but no differences were found on other aspects of motivation. Basing on the research findings CL has the significance of enhancing motivation among the students. Motivation is vital to the students' success as students have an inner drive to achieve as a team. If students are motivated, lecturers will not coerce the students to learn. CL involves collaboration among the students enabling them to succeed as learners and to become contributors to society (Fleming and Hickey 2012: 209). Through CL students can achieve as they work collaboratively. Currently, the situation demands some transformation to enhance teaching and learning as required by new needs at school and classroom level (UNESCO, 2011:13). This study aimed to support current approaches which support student engagement during teaching and learning in education. Thus, the study calls for the most effective interactive educational approaches that encourage dialogue and critical thinking among learners. Literature submits that strengthening pre-service teacher training has the benefit of responding effectively to the constantly changing needs of the curriculum, learners and school

communities (UNESCO, 2011:14). The focus of education is shifting from 'teaching' to 'learning' today (Wirth & Perkins, 2008:3). Ironically teaching should enhance the acquisition of knowledge rather than transmitting it. This has prompted the researcher to critically investigate the use of CL strategies in pre-service teacher education at MSU and GZU since they are largely responsible for developing most educators in Zimbabwe at higher levels.

#### **1.4 Problem statement**

Current trends in the theory and practice of education argue for learning that incorporates CL among students since the approach encourages learners to be more engaged than the traditional practices that were broadly teacher-centred. The traditional approaches promote learner passivity and lack of creativity among learners since the teacher dominates teaching and learning enterprise. Learning in the 21<sup>st</sup> century demands teachers in training to be more engaged and active participants in their learning rather than being passive recipients of knowledge and skills (Bolstad , McDowall, Bull, Boyd, and Hipkins (2012: 294). The culture of developing learners who are not active participants has the danger of churning out students who cannot think independently. The Ministry of Higher and Tertiary Education, Science and Technology Department is aware of the need to have cooperative approaches to learning, especially its emphasis on the need of learners to work together and become responsible for themselves and their fellow learners (Ministry of Education and Sports, 2007:10). Al-ziadat, Alsaadeh and Al-Elaimat (2013:185) suggest that through CL educational institutions should prepare a generation of teachers who are creative and effective by applying current educational approaches. This has prompted the researcher to critically investigate teacher educators' use of CL strategies as one of the current educational approaches with pre-service secondary school teachers at MSU and GZU in Zimbabwe.

#### **1.5 Research questions**

Contemporary teaching methodologies disregard the lecture method in teaching because of the overemphasis on the role of the teacher (Biggs and Tang, 2007:28).

This study seeks to develop an understanding of how CL is being used in pre-service teacher education at MSU and GZU in Zimbabwe. To enable deep exploration and achievement of CL, the study was guided by the following research questions:

- 1) Which are the CL strategies used by teacher educators in teaching and learning in pre-service secondary school teacher education at the MSU and GZU?
- 2) How can current learning strategies in pre-service secondary school teacher education at MSU and GZU be supported more effectively through cooperative learning?
- 3) Why are CL strategies instructionally important to pre- service secondary school teacher education at MSU and GZU?
- 4) What can be done to improve CL strategies in pre-service secondary school teacher education at MSU and GZU?

### **1.6 Aim of the study**

Teaching in institutions has traditionally been seen to be teacher-centred (Biggs, 2015:2). Pre-service teacher education programmes aim to prepare graduates to become quality teachers equipped with pedagogical practices that will serve to meet the increasing demands associated with the teaching profession (Darling-Hammond, Bransford & LePage, 2005). As teaching and learning is a two-way transfer of information where the teacher and the pupils interact (Banda, Chivore, Zindi, Muchenje, Hapanyengwi, Nenohwe & Chikoto, 2014:71), teachers should be equipped with knowledge and skills that would enhance pupils' acquisition of knowledge and skills as well. This study, situated in the area of teaching and learning, has been stimulated by the manner in which teacher educators at MSU and GZU are engaging pre-service student teachers in their teaching and learning. Limited and scanty research has explored this form of active pedagogy as it pertains to pre-service teacher education programmes in Zimbabwe and it is against this background that the researcher was prompted to critically investigate the use of CL strategies in pre-service secondary school teacher education at MSU and GZU.

## **1.7 Objectives of the study**

The research objectives of the study are to:

- i) establish CL strategies used by teacher educators to use in their teaching and learning in pre-service secondary school teacher education at the MSU and GZU
- ii) assess how current learning strategies can be supported more effectively through CL in pre-service secondary school teacher education at MSU and GZU
- iii) indicate why CL strategies are instructionally important in pre-service secondary school teacher education at MSU and GZU
- iv) recommend what can be done to improve CL strategies in pre-service secondary school teacher education at MSU and GZU

## **1.8 Research methodology**

Research methodology is the overall approach to studying a topic and includes issues to think about such as the constraints, dilemmas and ethical choices within a research (Dawson, 2002:14). An interpretative phenomenological approach was adopted to critically investigate teacher educators' use of CL at MSU and GZU. A phenomenological approach focuses on how life is experienced by providing a description of how things are experienced at first hand by those involved (Denscombe, 2010:94). First-hand information solicited from the pre-service students and lecturers enhanced the researcher to critically investigate the use of CL strategies in pre-service secondary school teacher education at MSU and GZU.

The aim of an interpretative phenomenological analysis (IPA) is to explore in detail how participants are making sense of their personal and social world (Smith & Osborn, 2015). In such an analysis, the researcher takes an active role in getting closer to the participant's personal world. An interpretive phenomenological approach is concerned with understanding what a participant's personal world is like from the perspective of participants because people attribute different meanings to their personal and social environments. In this regard, interpretative phenomenological researchers need to gain and maintain good access to appropriate organisations for their fieldwork (Walsham, 2006:320). The researcher opted to use an interpretive paradigm because it enhances

the understanding of the subjective world of human experiences (Tavakoli, 2012:413). Cohen et al. (2011) thus recommend that interpretive phenomenological researchers should strive to understand and interpret the world in terms of its actors.

## **1.9 Research design**

Research designs are types of inquiry within qualitative, quantitative and mixed methods approaches that provide specific direction for research procedures in a research project (Creswell, 2014:41). According to Chingombe and Chingombe (2012:44), a research design is the glue that binds the research together. This study is located within a qualitative research design. A qualitative research design is the “logic that links data to be collected to the initial questions of the study” (Yin, 2011:76). Qualitative researches rely on linguistic rather than numerical data and employ meaning-based rather than statistical forms of data analysis. Distinctive features of qualitative research emphasise the understanding of phenomena in detail. Fischer (2006: xvi) notes that qualitative research is a reflective, interpretive, descriptive and usually reflexive effort to describe and understand actual instances of human action and experiences from the perspective of participants who are living through a particular situation. In order to achieve this, the researcher became part of the natural setting of the pre-service teachers in training and observed the extent to which teacher educators implement CL methodology at MSU and GZU. This was achieved through participant observation where the researcher becomes much more involved in the lives of the people being observed (Dawson, 2002:32).

A phenomenological descriptive case study was adopted to explore the teacher educators’ use of cooperative learning. A phenomenological approach focuses on how life is experienced by providing a description of how things are experienced at first hand by those involved (Denscombe, 2010:94). In this case, the researcher critically investigated the use of CL strategies in pre-service secondary school teacher education at MSU and GZU.

## **1.10 Research instruments**

Research instruments were fundamental procedures in accomplishing the aims and objectives of any research project. This study is located within a qualitative research design which emphasises multi-modal approaches for data generation (Rule and Vaughn 2011:88). The use of questionnaires, observations and in-depth one-to-one interviews to generate data for this study are therefore considered viable options for data collection. The credibility of any research chiefly depends on the appropriateness of the instruments. The researcher has, therefore, chosen instruments that are liable to provide relevant data or findings which address the research problem. Observations were done to note how individual accountability is enhanced during cooperative learning.

### **1.10.1 Interviews**

Seidman (2006:9) observes that interviews as instrument for reflecting the truth about reality 'out there' through following a research protocol and getting responses that are relevant to it, while minimizing research influence and other sources of bias. In this study, the researcher interviewed lecturers to solicit data on how they are enforcing CL to enhance effective teaching by pre-service students. Face-to-face interviews were scheduled to last for 20-30 minutes. Data from the interviews were recorded instantly to ensure that the research would not miss out any critical information given by respondents during the interviews. The fact that the human mind cannot remember all information demands that the researcher records all data so that salient information cannot be overlooked during data analysis.

### **1.10.2 Focus group discussions**

Focus Group Discussions (FGDs) are an interactive discussion between pre-selected participants to gain a broad range of views on the research topic where participants feel free to express their views. Welman, Kauger and Mitchell (2005: 201) contend that FGDs are essentially a qualitative technique for collecting data which perhaps cannot be collected easily by means of individual interviews. This would imply that FGDs are more or less equivalent to interviews; the difference being that responses were

gathered from members of the group. May (2001) accentuates that participants in FGDs are more explicitly encouraged to talk to one another as opposed to answering questions each person in turn.

### **1.10.3 Questionnaires**

Basically, there are open-ended and closed questionnaires. The researcher used the open-ended questionnaires. Open-ended questionnaires are those that do not restrict the answer, which is recorded verbatim (Barker, Pasturing & Elliot 2002:96). The questionnaires can be mailed or self-administered (May, 2006). In this study, the researcher administered the questionnaires on her own to make sure all are returned by respondents. It should be noted that evaluating the reliability of verbal data is difficult (Barker, Pasturing & Elliot, 2002:98). Observations were used to counter the flaws of the questionnaires.

### **1.11 Population**

Welman, Kauger and Mitchell (2005: 52) describe a population as encompassing the total collection of all units of analysis about which the researcher wishes to make conclusions. It is a full set of cases from which a sample is taken. A population consists of all the subjects under the study. This study was carried out at MSU and GZU. The target population comprised of Bachelor of Education students at the two institutions. The total number of students is one thousand. The researcher's focus was on the pre-service students and lecturers at the same institutions. A population could be all children in some group of interest (Sapsford & Juppe, 2006: 27). Focusing on the students and their lecturers enabled the researcher to collect rich data on the usefulness of CL from research participants. Lecturers described cooperative strategies they employ during cooperative learning. Students explained how their lecturers promote CL during their studies.

#### **1.11.1 Sample**

Lesson and Karennan (2011:93) define a sample as "a portion or a subset of a larger group called a population". In concurrence, Bless, Higson and Smith (2010:85) also define a sample as a subset of the whole population which is actually investigated by a



researcher, and whose characteristics are generalized to the entire population. Participants were selected depending on their relevance to the question asked. The aim of sampling is not only to save time and effort, but also to obtain consistent and unbiased estimates of the population status in terms of whatever is researched (Sapsford & Juppe, 2006:26). The researcher sampled five lecturers and ten students to critically investigate the use of CL strategies in pre-service secondary school teacher education in the two state universities. Five students were sampled from each university while three lecturers were from GZU and the other two from MSU. John and Rule (2011) acknowledged that it is not constructive to consult everyone when carrying out the research. As a result, participants were chosen deliberately because of their suitability in advancing the purpose of the study.

### **1.11.3 Sampling procedure**

Stratified random sampling is done to solicit information from the first and second-year students. Stratified sampling is done when the research population consists of sub-groups who may have different opinions or experience of the world (Bertram & Christiansen, 2014). In this scenario, the first-year students have different experience of CL compared to second year students who seem to be more exposed to CL methodology.

### **1.12 Data collection procedure**

The researcher is obligated to seek clearance before the fieldwork commences. Welman, Kauger and Mitchell (2005: 251) emphasise that a researcher should obtain the necessary permission from respondents after they are thoroughly and truthfully informed about the purpose of the interview and investigation. The researcher should not therefore coerce research participants in any way. Ethical clearance was sought from the University of KwaZulu-Natal. Further permission to conduct the study was obtained from the Ministry of Higher and Tertiary Education in Zimbabwe. In addition, gatekeepers' permission from GZU and MSU was sought from the research boards of the two institutions in the study. Furthermore, consent was sought from the teacher educators and pre-service students as participants in this study.

### **1.13 Data analysis procedure**

Bogdan and Bilken (2007:127) define qualitative data analysis as “working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them, and searching for patterns”. The present research used thematic analysis which utilized rich descriptions in the organization of the data (Bhattacharjee, 2012:113). Data coding are done in the interpretation of the raw data collected from respondents (Hennink, Huttler & Bailey, 2011:217). Data coding involves carefully reading the data solicited and considering which codes are discussed in the selected section and then labelling the section with relevant codes (Hennink, Huttler & Bailey, and 2011: 218). Data analysis involves interpretation of raw data collected from respondents. The raw data is developed into themes by identifying important events and encoding it prior to interpretation (Saldana, 2009:101). In thematic analysis, the task of the researcher is to identify a limited number of themes which adequately reflect the respondents’ views (Creswell, 2007:288).

### **1.14 Validity and credibility**

Validity in qualitative research is achieved through appropriate selection of participants and scrupulous faithfulness to the data in the analysis and in the presentation of the findings (Fischer, 2006: xvii). To enhance validity the instruments were pilot tested. Henning, Hustler and Bailey (2011) opine that pilot testing enables the researcher to moderate and refine questions before the actual data is collected. This enabled the researcher to evaluate how questions are being understood and consider any revisions if there is any need.

The credibility of the research chiefly depends on the appropriateness of the instruments. There is need to decisively choose the instruments that are liable to present the anticipated results. This research study adopted questionnaires, observations, FGDs and interviews. The instruments were triangulated to facilitate the collection of valid and credible data. Triangulation engages various research instruments in an investigation to generate authentic data during the study (Welman, Kauger and Mitchell (2005 :194). This presupposes that a flaw in one method is

compensated for by another method. This is because a single method can never sufficiently address all the expected outcomes of phenomenon. Patton (2002) argues that once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. It is upon this background that the researcher saw it worthy to make use of multiple research instruments, and as such, confidence in formulating the research finding is boosted. A data planning matrix is given underneath giving detailed information on how data was collected.

### **1.15 Ethical considerations, limitations and delimitations**

Conducting the research in an ethically sound manner enhances the quality of research and contributes to its trustworthiness (Rule & Vaughan, 2011:151). The researcher considered confidentiality, anonymity, voluntariness and consent ethics so that authentic data were sourced to promote the credibility of the study. Confidentiality is when the researchers know a participant who has provided the information given but would ensure that no- connection is known publicly and that the boundaries surrounding the shared secret is protected (Cohen, Manion & Manion, 2000:62). Rule and Vaughan (2011:153) suggest that researchers usually need to apply for ethical clearance before embarking on a study. In order to carry out the study, the researcher sought clearance from the Ministry of Higher and Tertiary Education, Science and Technology Department . Further permission was also sought from the Vice Chancellors of GZU and MSU before the commencement of the study.

The researcher respected the voluntariness ethic during the study. This ethic allows respondents in research to exercise the freedom of choice without the intervention of force, deceit, duress or other forms of coercion (Hugaas 2002:66). The researcher sought the consent to interview participants. Consent means that participants agree to take part in the study (Bertram & Christiansen, 2014:66). Denscombe (2010:332) expostulates that people should not be forced or coerced into helping with research. Bhattacharjee (2012:137) argues that subjects must be aware that their participation in the study is voluntary and that they have the freedom to withdraw from the study anytime without any unfavourable consequences and that they are not harmed as a

result of their participation on non-participation in the study. He further notes that participants must have sufficient information about the research to arrive at a reasoned judgement about whether or not to participate. In this regard, the researcher fully explained the aims and objectives of the study to participants, and their role in the study. The researcher made it clear to participants that they are willingly part of the research. This right to exercise choice must be present throughout the entire research process and participants, as Gwirayi (2013:256) avers, were told that they are at liberty to withdraw if they wish to do at any time.

The researcher also considered the anonymity ethic. The essence of anonymity is that information provided by participants should in no way reveal their identity (Cohen, Manion & Manion, and 2000:61). Respondents were thus asked to use pseudonyms so that the researcher would not identify them by name in the report. The researcher ensured that no-one else has access to the collected data. If the classified data is exposed pre-service students could be vulnerable to victimisation by their educators for providing the researcher with such classified data.

Financial constraints coerced the researcher to confine the study to only two state universities out of the nine universities in the country. Furthermore, time influenced the execution of the study. Being a full-time lecturer and a part-time student ultimately limited consultation times. Furthermore, the researcher was likely going to face some resistance by pre-service students to respond to questionnaires. However, she persuaded them to participate in the study. Respondents were assured that the information they contribute would be confidential. The respondents were promised that whatever information they disclosed on lecturers was not going to be shared with them as lecturers determine the destiny of students.

The two selected universities have six faculties. However, the study focused on B.Ed. pre-services students from the Faculty of Education only. Focus was on first and second-year students, thereby excluding the third and fourth years. Emphasis was on how lecturers and students engage in CL strategies.

## **1.16 Summary of chapters**

### **Chapter 1: Introductory orientation**

This is the preliminary chapter focusing on background of the study, statement of problem, research questions, research objectives, literature review, and limitations of the study, purpose of the study, significance of the study, delimitations and definition of terms.

### **Chapter 2: Literature review**

The chapter focuses on theoretical framework that relates to the use of CL strategies in pre-service secondary school teacher education. The study is guided by the theories of Vygotsky and Feuerstein, and contribution of African perspectives of '*ubuntu*' to cooperative learning.

### **Chapter 3: Research design**

Chapter 3 deals with the research design employed in the study which includes discussions of the research methodology and research methods used in the research.

### **Chapter 4: Research results**

Chapter 4 captures the data collected in the research, presents and analyses the findings of the study.

### **Chapter 5: Conclusion and recommendations**

Chapter 5 summarises the study and makes recommendations based on the findings of the study and suggests areas in need of further research on the theme of the study.

## **1.17 Summary**

The chapter broadly introduced key ideas of the study. It focused on the background to the study, research questions and the statement of the problem. In addition, limitations of the study, concepts of teacher educators and the students in training were also

discussed. The following chapter focused on review of related literature guided by the theoretical framework.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter is a review of literature on the application of CL strategies in pre-service secondary teacher education. Pre-service education must prepare teachers to meticulously meet the burdens of uplifting national principles to the multifaceted demands of diverse teaching and learning practices. An in-depth literature review is critical in providing essential information that addresses current issues, contributions and some debates surrounding the topic to be investigated. Such literature provides some basis for the researchers to further explore the area previously dealt with by providing the entry point as well as the point of departure. Explicitly, this literature review acts as both a summary and explanation of the complete and current state of knowledge on a limited topic as found in academic books and journal articles. Through literature review, an evaluative report of studies found in the literature related to CL is undertaken. By undertaking a literature review, one is thus able to extensively summarize the existing information in the area under exploration before a robust debate is given. This study is guided by the theories of Levi Vygotsky, Reuven Feuerstein and *ubuntu*.

#### **2.2 Cooperative learning as a concept**

The concept of CL is a multi-layered concept and different scholars have attempted to define it in many ways. Some scholars have defined CL as an approach to organizing classroom activities into academic and social learning experiences (Cohen, Brody & Sapon-Shevin, 2004:65). In that context, CL enables every person to search for a solution or perform a task that is important to him/her and to every other group member (Vrhovec, 2015:131). In addition, cooperative learning, which is sometimes referred to as co-learning, “[is where] students work in small groups to achieve a common goal” (Ormrod, 2008:437). Students are compelled to work jointly through collaboration to understand the tasks at hand. Ultimately, learning is enhanced as students jointly work in groups on a common task. During that exercise, students will be motivating one another. Slavin (2014:273) observed that CL comprises a team of diverse students who

care about helping others to learn for the success of the whole group/team. This diversity promotes cross pollination of ideas among the students.

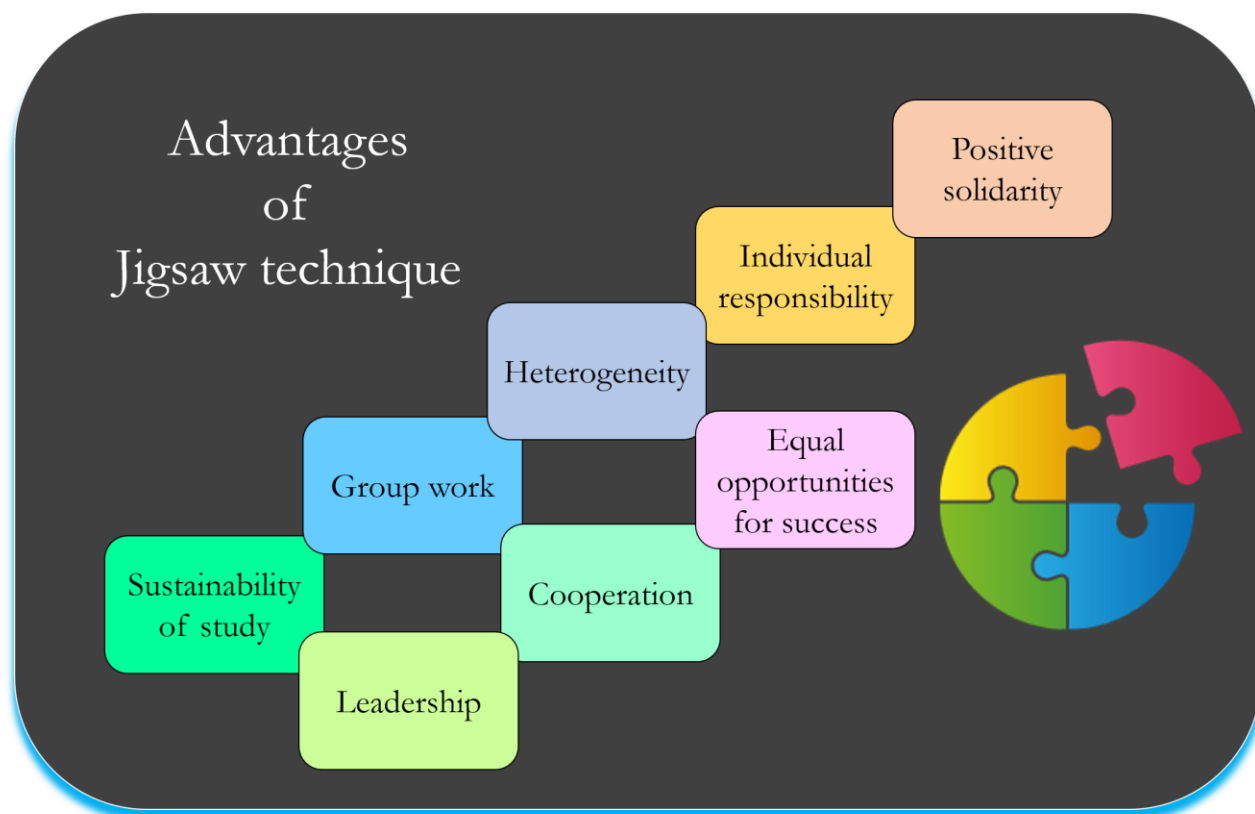
For Huang (2000:257), CL encourages students from different backgrounds and abilities to discuss, debate, disagree, and ultimately teach one another. Through cooperative learning, each student searches for a solution or performs a task that is important to the self and the whole group (Vrhovec, 2015:131). Ultimately, students will therefore work jointly through collaboration to comprehend the tasks to be undertaken. Students from diverse cultures, different experiences and learning modes thus get together to achieve success towards a common goal by assuming the responsibility of each other's learning (Gocer, 2010, 443). In concurrence, Hossain and Tarmizi (2013:473), Akhtar, Perveen, Kiran, Rashid and Satti (2012:141) observe that CL is a successful teaching technique in which small groups, each with students of various levels of ability; use a multiple of learning activities to improve their understanding of a subject. Diversity largely promotes cross pollination of ideas among students. Through CL approaches, students are therefore encouraged to establish a community in which they can get help and support from other group members immediately in a non-competitive environment. The mostly common used CL strategies are jigsaw, think – pair share, student team achievements, and group processing.

### **2.2.1 Jigsaw**

In jigsaw approach, students become experts in a particular concept and then share their knowledge with other group members (Vijayan, Shahrill , Abbas and Tan, 2016 :399) .Jigsaw stresses CL by giving students a chance to devotedly assist each other. One of the benefits of jigsaw is that it is a reputable technique of cheering students to sharing and learning of precise content. It helps students learn cooperation as group members sharing responsibility for each other's learning by using critical thinking and social skills. The ability to think critically provides a more precise direction in thinking, working and helping more accurately in determining the interrelationship of something with others ( Achmad, Bundu, Suradi and Jufri 2018 :42). It elevates profundity of mastering as students are directly engaged. Through the use of jigsaw the students' engagement in CL is amplified and an optimistic learning environment is formed



enlightening the interactions among the students as they work collaboratively. The benefits of jigsaw are outlined below:



**Fig 2:1 Advantages of jigsaw technique** <https://goo.gl/images/FLFmoc>

Individual responsibility is one of the tenets of jigsaw technique. Each member of a CL group must do his or her fair share of the work (Murat 2015: 3). Students have full ownership of their work. Thus students 'sink or swim together' where there is responsibility for each other and individual and group accountability (Hartman 2010:161). Through the use of jigsaw students help each other resulting in a positive effect in the development of good collaboration and teamwork (Vijayan, Shahrill, Abbas and Tan, 2016:401). By pulling in one direction positive yields are encountered. Arends (2009:358) noted that in the jigsaw model each team member is responsible for mastering part of the learning materials and then teaching part to other team members.

No one will sleep on the duty for they are aware that they have an obligation to participate.

Heterogeneity is perpetuated through the use of jigsaw. Heterogeneous grouping is gathering children of varying abilities in same groups to promote academic development of students having diverse background and abilities (Essays, UK 2013). In this study it is critical to uphold the principle of heterogeneity because it acknowledges and promotes multi-cultural education. In addition, it entails acknowledgement of diversity by providing a fertile and conducive ground for tolerance among learners. Tolerance allows students to value accept and appreciate ideas from their colleagues during CL with minimal challenges. Ultimately there is cross pollination of ideas is perpetuated through heterogeneity grouping. Heterogeneity also promotes interaction among learners.

Furthermore, group work gives students opportunities to take responsibility of their learning. As group members question, describe, discuss and explain other group members learn how to reflect, monitor , evaluate, reorganize and orchestrate their knowledge and skills based on the task at hand ( Murat 2015 :2). The team members were at liberty to question their colleagues for broader understanding of concepts assigned to them. Through teamwork some monitoring skills are developed as students learn to respect each other. As a result, students improve their coordinating leading to success of CL. Group work facilitates students to develop the ability to think autonomously and collaborate for goal accomplishment. Advantage of group work is to enable learners to freely express their views with minimal interference with the teacher. It also boost confidence of those learners who do not feel more comfortable in sharing their views in broader groups in the bigger class or who are hesitant to have direct interaction with the teacher.

Leadership refers to the ability to take a leading role in an activity in preparation of taking a responsibility within the class in preparation of the broader society or after school. We believe leaders are made but some say leaders are born so teaching and learning should be a platform where students are sharpened their abilities as would be leaders or they are manufactured or made to become leaders. Now to become a leader entails being a responsible, rational and accountable person. So the teacher has to

ensure that the students are exposed to the challenges encountered with the responsibilities of becoming a leader. So leadership has to be associated with the way the teacher designates responsibilities. Teacher should ensure student rotate responsibilities on that note the teacher identifies the talented area where individuals is able to pursue his leadership role some would be good maybe good or social activities . Some may become political leaders by virtue of being good orators. Teachers should identify talented students and support them in order for them to pursue their talents. Being a leader also entails the ability to cooperate i.e. to work with others. One can't be a leader in isolation you need cooperation of all colleagues in the group. The group leader has to accommodate colleagues with different abilities since there are passive vs active learners or introverts vs extroverts. So with the group a good leader should tolerate learners with different abilities to enhance cooperation.

A goal of jigsaw classroom is to decrease competition and increase cooperation among the students (Adams 2013: 66). Once students are not competing against each other through cooperation they develop good listening skills. This will enable students not to be emotional. Instead they become rational figures enabling them to manage the diversities within CL groups. In the event that there could be clash of beliefs a good leader should be able to manage. Leadership means management. The leader acknowledges the co-existence of CL team members. A leader is a manager and in CL needs to give equal opportunities among all group members.

On equal opportunity no one is superior or inferior. Each student is collectively dependent on each other to achieve the learning objectives postulated by the teacher (Jamaludin and Mokhtar 2018:575). Every member is given a platform to air views resulting in individual weaknesses or strengths becoming a group thing. Thus, students rise and fall as a team leading to equal opportunity. Team effort is credited when equal opportunities are rendered to the students during CL leading to positive solidarity.

Positive solidarity focuses on oneness. Students become more focused and increase self- motivation as their roles in the group are recognised by their peers (Jamaludin and Mokhtar 2018:575). During positive solidarity positive elements within or among the team members are honoured. Together as one, the focus is not on the negative

elements as individuals must pull in the same direction even if there are challenges they remain optimistic. In CL every endeavour or mission some own ups and downs may be encountered so individuals need to motivate each other so that they share the same vision as a group. This is achieved by evading the tendency of excluding others as insignificant members. However, focus should be on the positive aspects in them and shape on the positives and ignore the negatives.

### **2.2.2Think - pair - share**

One way to improve learning achievement is by applying various models of learning, one of which can be applied is CL model known as Think-Pair – Share (TPS) which was developed by Frank Lymam (Sari and Berimani 2015 : 31). The TPS strategy is a strategy designed to provide students to think a given topic by enabling them to formulate ideas and share ideas with another person (Usman 2015:39). It challenges the assumption that discussions need to be held in a whole group setting and it has ways for allowing students ample time to meditate and respond to given tasks supporting one another ( Arends 2009 : 360). TPS comprises of the three aspects which are Think, Pair and Share. The synopsis of TPS is illustrated on the table below:

	Description
What?	Think- Pair – Share : a collaborative technique
Why?	To increase participation by allowing a group of collaborators to interact and share ideas, which can lead to knowledge building among them.
How?	<p>Consist of three stages :</p> <p><b>Think -Individually</b></p> <p>Each participant thinks about the given task. They will be given time to jot down their own ideas or response before discussing it with the pair. Then, the response should be submitted to the supervisor or teacher before continue working with pair on the next (Pair) stage.</p> <p><b>Pair- With partner</b></p> <p>The learners need to form pairs. The supervisor / teacher need to cue students to share their response with the partner. Each pair of students will then discuss their ideas about the task and their previous ideas. According to their discussion, each pair will conclude and produce final answer. Then they need to move to the next (Share) stage.</p> <p><b>Share – To all learners / collaborators</b></p> <p>The learners pair to share their results with the rest of the class. Here, the large discussion will happen, where each pair will facilitate class discussion in order to find similarities or differences towards the response or opinions from various pairs.</p>

**Table 2:1 Summary of TPS (Tint and Nyunt, 2015:4)**

Tint and Nyunt (2015:1) argued that TPS is the activity that prompts students to reflect on an issue and then share that thinking with others. In implementing the think-pair-share strategy (Usman 2015:39) suggested that:

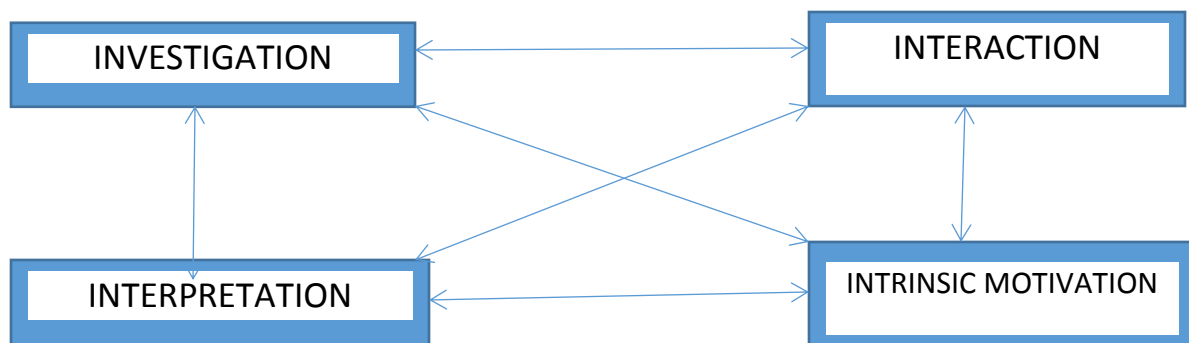
*The lecturer poses a problem or asks an open-ended question to which there may be a variety of answers. In this session, the lecturer gives the students ‘think time’ and directs them to think on their own about the question. Following the ‘think time’, students turn to face their learning partner and work together, sharing ideas, discussing, clarifying and*

*challenging. The lecturer then asks the students to pair with their partner and share their ideas that they have thought before. The pair then shares their ideas with another pair, or with the whole class.*

The merit of using the TPS strategy is that it escalates student involvement. Students will be active throughout the CL strategy as they are aware that they need to share the feedback with their colleagues and the rest of the class. Exclusively, the objective of escalating involvement is to create an atmosphere in which all members need the chance to attain and examine concepts in detail from a diversified standpoint.

### **2.2.3 Group investigation**

Group Investigation ( GI) is one of the CL strategies where students gather necessary information, engage in exchange and interpretation of ideas which they have to present with their group in front of the class ( Ahsanah 2015 :57) . Achmad et.al. (2018 ; 42 ) argued that GI is a type of CL that consists of several members within a group that are responsible for the mastery of the subject matter and able to work on that part with other members of the group . Many of the key features of GI approach were designed originally by Herbert Thelen (Arends 2009:359). Students are normally divided into groups of five or six heterogeneous member groups where they select topics for the study pursue in depth investigations of chosen subtopics and then prepare and present a report to the whole class. GI is probably a CL approach which is more complex and difficult to implement since it involves students in planning the topics to be studied and how to run the investigation. This seems not to be the appropriate considering that the studies are examination oriented. If the students are at liberty to select what they want to cover chances are that all the content to be examined is likely not going to be covered. GI includes four important components (“the four I’s”) investigation, interaction, interpretation and intrinsic motivation (Zingaro 2008: 1). The four components are shown on the figure below:



**Fig 2:2 Components of GI**

Interaction is a hallmark of all CL methods, required for students to explore ideas and help one another (Zingaro 2008:1). This facilitates students to be interactive in the classroom because they have to have positive interdependence and individual responsibility so that they have great interaction with their friends because they have to work in group (Ahsanah 2015:58). Through interaction the students will be sharing ideas. They learn to love and respect one another. As a result they tend to value ideas from their colleagues leading to the effectiveness of CL.

Investigation refers to the fact that groups are on the process of inquiring about a chosen topic (Zingaro 2008:1). It is essential that students gain familiarity of the assigned tasks. Investigation is centered on the conviction that understanding is built on the manner in which individuals work and converse as they research and solve assigned tasks.

Interpretation occurs when the group synthesis and elaborates on the findings of each member in order to enhance understanding and clarity of ideas (Zingaro 2008:1). Musyoka and Karanja (2014: 196) argued that the goal of interpretation is that a message makes the same impact on the target audience that a speaker intends to convey a message. They further noted that it involves understanding the meaning, the sense of what is being said before delivering it into the targeted populace. The lecturer should ensure that the tasks are interpreted correctly before students engage in discussions. If the tasks are wrongly interpreted it means the students will be giving

wrong feedback. This affects the lecturer as there is an obligation to teach the tasks that were not fully presented.

Finally, intrinsic motivation is kindled in students by granting them autonomy in the investigative process (Zingaro 2008:1). Intrinsic motivation influences learners to choose a task, get energized about it and persist until they accomplish it successfully; regardless of whether it brings an immediate reward (Borich and Tombari 2003:210). Thus students get satisfied for goal accomplishment without material gain. They have an inner will to participate in the CL. Once they have that self-drive they will devote their energy to the assigned activities leading to the success of CL.

#### **2.2.4 Student- teams achievement division**

Student- Teams Achievement Division (STAD) is one of the CL methods that involves small groups in which each member of the group works together on a common task to achieve a common goal (Jamaludin and Mokhtar 2018:571). STAD was developed by Robert Slavin where students are divided into four- or five members where learning both sexes are represented from various racial or ethnic groups, and high, average and low achievers on each team (Arends 2009:358 ).Thus, it caters for diverse students in CL. Balfakih (2003: 608) outlined that:

*There are five main steps a teacher should follow when STAD is implemented. The teacher first introduces new material to be learned. The team members then study worksheet on the material until they master the material. Individual quizzes are taken on the material studied. The teacher then combines scores to create team scores. Members of the winning team are given certificates and a weekly one-page class newsletter recognises the teams with the highest scores.*

STAD is an opted CL strategy since it expedites interaction among the CL team members. It improves attitude, self-esteem and interpersonal relations all of these contribute to positive attitude Balfakih (2003: 608), which is a requisite to CL. It provides a CL environment which fosters learner activity, joint acquisition of content and mutual explaining (Van Wyk 2013:1154).



### **2.3 A snapshot of previous research on CL**

Research and literature on CL and teacher education are abundant. In a study by Mthiyane (2014:137), CL is presented as an innovative teaching strategy to prepare post-graduate certificate in education (PGCE) students in terms of their teaching skills and content knowledge in life orientation (LO) education. The study revealed that using CL was an unfamiliar experience for the respondents. In addition, an investigation by Hornby (2009:161) on forty-four final year teacher trainees in New Zealand indicated that individual accountability and positive interdependence should be built into CL activities. Furthermore, Gull and Shehzad (2015:246)'s findings on students enrolled in the subject of Education in Pakistan concluded that CL activities had a positive effect on academic achievement. Also, Ahmad and Mahmood (2010:151) investigated the effects of three experimental conditions on prospective teachers' learning experiences and achievement in the course of Educational Psychology in Pakistan. The study concluded that CL enhances prospective teachers' academic achievement as compared to traditional instruction. In all these studies, a common feature of CL is that learning is student centred and places a stronger emphasis on a goal of learning instead of a performance goal (Kolawole, 2008:34). This is in harmony with Felder and Brent (2007:1)'s research study on students working in teams on an assignment or project cooperatively, which noted that through cooperative learning, students tended to exhibit higher academic achievement, better high-level reasoning and critical thinking skills. This was achieved as students were in a position to view situations from others' perspectives and share ideas collectively.

Nejad and Keshavarzi (2015:169) carried out a study to investigate the effect of CL on L2 reading comprehension ability for pre-university students by comparing the CL instruction and traditional lecture instruction. Another objective was to discover the effect of CL on reading anxiety of students. The findings showed that CL method had a higher effect on L2 reading comprehension skills when compared with the effects of traditional teaching methods. In the case of student's attitude, the average mean of attitude score for students in the CL group showed a strong relationship with this learning approach. In addition, Wang, Xiamin and Jinglei (2012:253) carried out a study which was designed to obtain student feedback on the format of CL together with role

play in the study of pharmaceutical undergraduates. Students were satisfied with CL with role play. Majority of the students believed this teaching method enhanced their learning experience, made them gain more pharmacological expertise increased the awareness of their career in future and self-educational abilities and fostered their cooperation spirit and confidence.

In a related study, Dabaghmanes, Zamanian and Mohammad (2013:1) investigated the effects of CL on English language achievement of undergraduate students in higher education classrooms. The results of their research suggest that students working cooperatively consistently outperform students attending a lecture-based class. CL enhances prospective teachers' academic achievement as compared to traditional methods. This observation is similar to a research by Inuwa, Abdullahb and Hassan (2015:297) aimed at examining the effects of CL on secondary school students' achievement in financial accounting in Gombe state, Nigeria. It has also been proved that there are positive changes that are taking place when students are exposed to cooperative learning. Al-Attamimi and Attamimi (2014:27) examined CL effectiveness on using English language at undergraduate level in Denmark on non-English speaking students from Yemen. The findings showed a remarkable development in the students' speaking skills and attitudes after the introduction of CL techniques. Tran (2014:131) investigated the effects of CL on the achievement and knowledge retention of students of psychology over eight weeks of instruction at Giang University. The study showed that using CL achieved significantly higher scores on the achievement and knowledge retention post-tests than did students who were instructed using lecture-based teaching.

Orprayoon (2014:81) carried out a study aimed at testing the effects of CL method on learning achievement of junior French major students at Rangsit University in Thailand. The results revealed that the technique raised significantly the students' learning achievement at 0.01 statistical level. A study by Gillies and Boyle (2008: 933) by ten middle-year teachers who implemented CL indicated that a number of them encountered problems in implementing it. In the Zimbabwean context, as pointed out in Chapter One, Musingafi and Rugonye (2014) also examined the effectiveness of CL in the teaching of History at secondary school level. They concluded that CL made

learning real and meaningful as it related well with the everyday life experiences of the learners. The researchers used quantitative methodology to conclude the significance of cooperative learning. Nguyen, Elliot, Terloue and Pilot (2009: 1) noted that numerous studies that have attested to the benefits of CL have been conducted in the West. Huddy (2012:iii ) carried out a meta analytic review of CL practices in higher education and found out that there is no statistical difference between CL and traditional lecture teaching methods. This study is thus a response to a call for a study in Zimbabwe to see its applicability and relevance in the Zimbabwean context.

#### **2.4 Teacher educators' use of CL strategies in teaching pre-service secondary school teachers**

The general assumption, and belief, among some teachers is that, if they relinquish tight control over learning activities, it may be harder for teachers to sustain good order during teaching and learning. Teachers need to be aware that they are rarely, if ever, writing on a blank slate (Fry, Ketteridge & Marshall, and 2009:10). During cooperative learning, teachers apparently surrender some degree of autonomy and control to the students. Kyriacos (2001:31) notes that during cooperative learning, students are enabled to obtain greater autonomy into the conduct of learning activities through observing the performance of their peers, sharing and discussing procedures and strategies. Teacher educators are actually lecturers while the learners are student teachers.

Donald, Lazarus and Lowlana (2010:79) explain that knowledge is not viewed as being given but as actively and continuously constructed and reconstructed by individuals and groups. The success or failure of the group affects every individual involved during proceedings. Group members are more inclined to help other members learn concepts when the entire groups' grade depends on each student's understanding of the subject (Tsay & Brady, 2010:79). The results of the study carried out in Malaysia proved that CL approach resulted in higher achievement than traditional teaching approaches (Effandi, Chin & Daud, 2010:273; Shinde, 2006:2). CL strategies employ many of the following characteristics and strategies in the classroom: positive interdependence with structured goals, face-to-face interaction, individual accountability, heterogeneous ability grouping, social skills, sharing of leadership roles and group processing.

Evaluating a student's achievement is a primary duty of a teacher (Kolawole, 2008:033). Lecturers should ensure that students work together to learn and be responsible for their team-mates' learning as well as their own (Iyer, 2013:1). The role of teachers in this scenario is to guide learners like torch bearers. The teachers' activities are meant to lead whilst most of the work is done by learners. The views of learners are respected. The usefulness of CL is attested as students learn more by enthusiastically focusing on tasks under investigation rather than merely observing and pay attention to their teacher. Notably, weaker students, who are likely to give up when they get stuck; being responsible for the success of a whole group keeps them going (Ahmadpanah, Soheili, Jahangard, Bajoghli, Haghighi, Holsboer-Trachsler, Brand & Keikhavandi, 2014:1031). Shy students who do not contribute in class should be coaxed into contributing to a group (Petty, 2006:192). Petty further notes that CL encourages students to have vested interest in each other's' learning as well as their own and holds them accountable for what they have done and learnt. Students are permitted to express themselves liberally and thus breed new ideas from their colleagues.

Through positive interdependence, individuals depend on each other to accomplish a given task. A student may feel that one's presence in a group is of paramount importance to all learners. Students will value different viewpoints from their counterparts. Students' impressions are that group goals can be achieved collectively. Students thus need each other for the success of the group.

Individual accountability contributes to the nature of CL amongst students. Cohen, Brody and Sapon-Shevin (2004:3) argue that all students need to learn and work in environments where their individual strengths are recognised, and individual needs are addressed. This is achieved as all students are held responsible for all activities within that group. Students are not competing for grades as was the case in the traditional learning procedures. In CL the teacher plays a crucial role in orchestrating and overseeing that group activities occur as planned and to establish him or herself as a firm figure in the classroom but not as to dominate the students (Kong & Sao, 2009:10). This entails that most of the learning activities are done by students themselves.

Through cooperative learning, the teacher is more of an initiator or torch bearer since the actual learning process is the core responsibility of learners.

While it is commonly admitted that CL is intrinsically beneficial to the teaching and learning process, one should appreciate that being in a group does not necessarily mean that all learners will co-operate fully and efficiently. For effective CL to take place there are five elements to be followed. These are positive interdependence, individual and group accountability, promotive interaction, appropriate use of social skills, and group processing (Kong & Sao, 2009:6). Of all these elements, the major element is positive interdependence which commands teachers to provide a vibrant task for learners to accomplish as a team. Students should understand that they “sink or swim together” as they work for the attainment of the specific instructional goal (Cushner, McClelland & Safford:325). Positive interdependence exists when individuals perceive that they can reach their goals if and only when other individuals with whom they are cooperatively linked also reach their goals and, therefore, promote each other’s efforts to achieve the goals (Johnson et al., 2007:16). On that note, if one person is unsuccessful all group members are affected and resultantly they are all considered to be failures. This is premised on the understanding that CL is largely student centred compared to teacher centred and it puts stronger emphasis on the goal of learning instead of performance of goals (Kolawole, 2008:34). Thus, CL thwarts the issue of competition among learners in support of collective responsibility in terms of the whole teaching and learning enterprise.

CL is also concerned with individual and group accountability. The group members ought to be answerable for accomplishing its objectives. All group members must be responsible for their contributions on the given task. The group must be vibrant about its objectives and be proficient in measuring its progress. Individual accountability focuses on the activities of team members to explain concepts to one another and making sure that everyone in the team is ready for an assessment that each will take without the help of a team-mate (Gravette & Geyser, 2004:56). This will also be used to measure students who need more scaffolding and backing in accomplishing the given tasks.

Through cooperative learning, each group member is made a resilient student. Subsequently, students learn cooperatively to enhance higher grades.

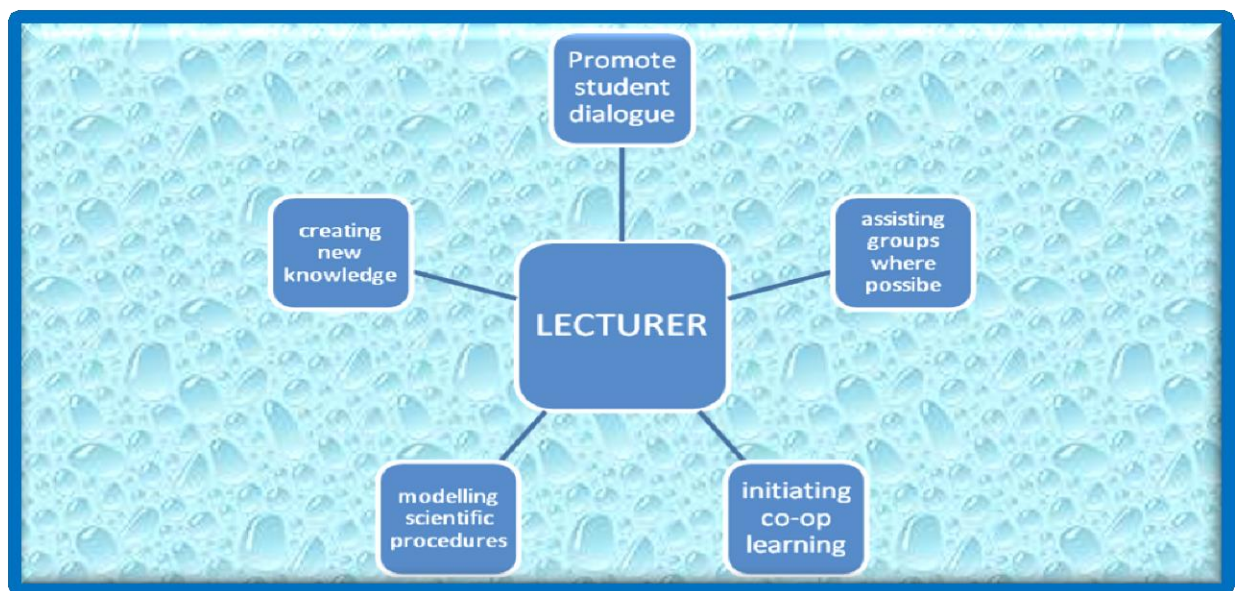
Face-to-face is also a key element of cooperative learning. This arises when members scaffold each other and approve each other's determination to learn (Borich & Tombari, 2003:198). CL groups are both a personal support system and an academic support system. There are important cognitive activities and interpersonal dynamics that can only occur when students promote each other's learning. This includes orally explaining how to solve problems, discussing the nature of concepts being learned, sharing one's knowledge with classmates, and connecting present with past learning. It is through promoting each other's learning face-to-face that members become personally committed to each other as well as to their mutual goals.

Gravette and Geyser (2004:57) highlight some techniques that have been tried and implemented with success at higher education institutions which internally include think-pair-share, round table, student team-achievement divisions and jigsaw. In tune with think-pair-share, Gravette and Geyser (2004:54) noted that students are given some time (usually 30 seconds to a few minutes) to think of a response. After that students are then paired with a colleague to deliberate their reaction to the question before they finally share their response with the rest of the class.

During the round table, students sit in a round table format writing their responses to a question on a problem. Students take turns in making some contributions. The idea of getting learners seated in a round table suggests that they are treated equally with their colleagues. Arends (2009:358) highlights that through jigsaw, students are assigned to five or six-member heterogeneous study teams where academic material is presented to them in the text form while each student is responsible for learning a portion of the material. Ultimately, each member would read his or her section and will meet with other members who would have studied the same aspects to discuss their sections. Through this approach, students learn to become experts in teaching others (Shindler, 2010:230), and this could be a more efficient approach than presentations.

## 2.5 How teacher educators support current learning strategies through CL in teaching pre-service secondary school teachers

During CL students and lecturers are partners. When partners work together some cohesion is likely to be realized. CL is a proven strategy that, when used properly, has increased academic success of students as well as promoted social growth (Cohen, Brody & Sapon-Shevin, and 2004:65). Through partnership, individuals feel that they co-exist. Belmekki and Kebiri (2014:29) suggest that teachers should act as observers of how each group and each member is functioning, offering support when needed and facilitate the process by explaining the task and intervening to solve the group conflicts. Resultantly, this creates a climate conducive to teaching and learning, where students may feel that with others they can do more and achieve more than they can do on their own (Fisher, 2001:90).



**Figure 2.3: Roles of a Lecturer during Cooperative Learning.**

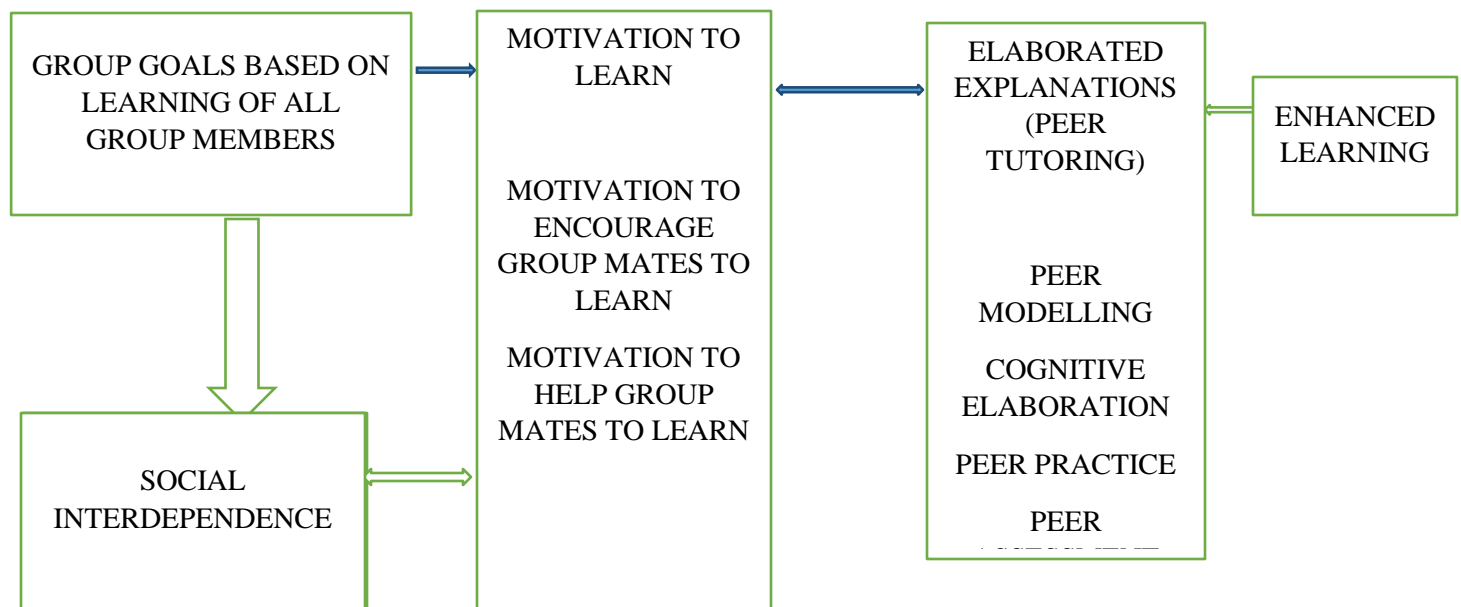
The lecturer is expected during CL to resolve any conflicts that may emanate in the classroom set up. The lecturer remains attentive to help students remain focused. CL instils the spirit of discovery learning where students identify key ideas and principles rather than having them taught directly by the teacher. Students create new knowledge through teaching each other. Hartman (2010:161) supports this view by noting that there are good reasons for the old saying which says that the best way to learn

something is to teach it. CL provides situations for students to teach each other. When students explain and teach each other, retention of these concepts improves. Explaining also helps students connect their prior knowledge with new information.

During CL, the lecturer needs to assist the students as they engage in cooperative learning. CL encourages students to work together to achieve shared goals. Students need to be assisted and monitored to enable them to remain attentive during the discussions. This develops students' approaches for procuring information. Through initiating cooperative learning, Egbulefu, Amaele and Sunday (2015:68) observe that active learners help each other to comprehend and accomplish the task as well as put in more effort and criticize if necessary. They need to depend on each other for the success of the group task. Failure is often noted if individualism is experienced.

CL empowers students in the interest of improving responsibility amongst them. As stated by Johnson & Johnson (2014:843), working cooperatively with peers perpetuates personal ego-strength, self-confidence and autonomy by being involved in cooperative efforts with caring people who are committed to others' success and well-being and who respect others as separate and unique individuals. They are stimulated to collect information jointly as they will be permitted to speak at liberty in order to create constructive ideas. A shift in authority from individual instructor to shared authority is noted with group of learners (Gillies & Ashman, 2003:70). Thus, learning should neither be a top to bottom nor a bottom—top approach. Instead, it ought to be both bottom-top and vice versa. The voice of students, as well as that of the teacher, ought to be respected at all costs. The students are instilled with a culture of listening to their colleagues' viewpoints. Students are thus obliged to network and back-up each other. The main thrust of CL is to develop education of all students not just a limited number. A functional relationships model is shown below to show how it enhances learning.



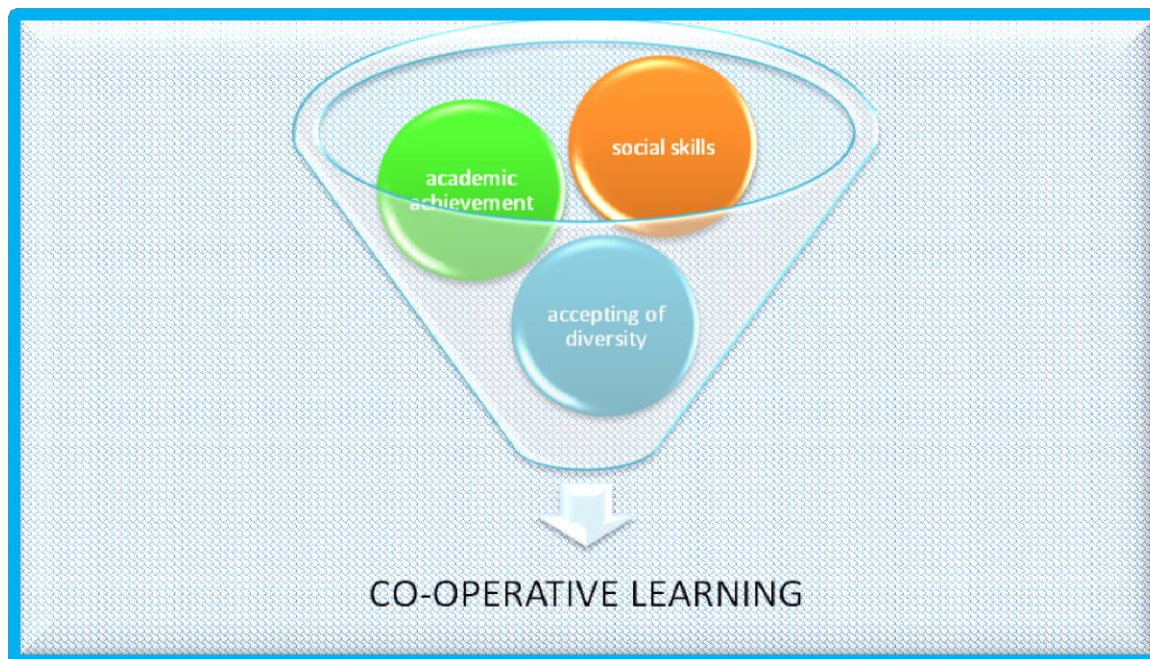


**Figure 2.4: Functional Relationships Model by Reynolds and Miller (2003:179).**

The model assumes that motivation to learn and to encourage and help others to learn activates cooperative behaviours that results in learning. Fry, Ketteridge and Marshall (2009:74) suggest that self-confidence can be improved, and teamwork and interpersonal communication may be developed as well.

## **2.6 The importance of CL strategies to pre- service secondary school teacher education**

CL is a pedagogy where participants work together to reach a goal, sharing their learning and developing social skills (McAlister, 2011). In cooperative learning, the teacher is more of a manager and facilitator of learning, or a coach instead of a transmitter of knowledge (Hartman, 2010:162). This entails that most of the learning activities are done by students themselves. The teacher, as previously noted, is more of a torch bearer not a depositor of ideas. Co-operative learning promotes social skills, academic achievement and acceptance of diversity among students. A pictorial presentation is shown below:



**Figure 2.5: Funnel Showing Outcomes for Cooperative Learning.**

Arends (2009:351) notes that CL environment sets the stage for students to learn very valuable and social skills that they will use throughout their lives. Thus, as students share ideas they end up developing lasting relationships. Fry, Ketteridge and Marshall (2009:74) are of the opinion that, through cooperative learning, interpersonal and interactive groups provide a challenging and appropriate vehicle for engaging students in their own learning. Resultantly, they develop heterosexual relationships which are fertile and critical for educational growth.

On the issue of accepting diversity, learners are encouraged to learn to respect other individuals irrespective of gender, social status and background. Students are expected to share ideas with students from different places, that is, CL takes cognisance of multi-cultural education. People from various cultural and moral beliefs are made to share their views during cooperative learning. Arends (2009:355) avers that CL raises the values students place on academic learning and changes norms associated with achievement.

CL encourages individuals to facilitate each other's efforts to accomplish the group's goals (Tran, 2014:131). As a result, students' achievement is dependent upon the ability to work as a team. In concurrence, participants perceive that their goal is achievable only if other group members can achieve their goals as well (Vodopivec, 2011:83). Participants perceive that their goal is achievable only if other group members can achieve their goals as well. If one member slacks off, every group member's grade or evaluation suffers. In view of this, students are likely to encourage each other to do whatever will benefit the entire group. It thus appears that cognitive development is facilitated in situations where the learner interacts with others of higher ability. It thus appears that cognitive development is facilitated in situations where the learner interacts with others of higher ability (Seabi, Cockcroft & Frdjon, and 2009:162).

In essence, students will engage in the task and help one another learn because they identify with the group and want one another to succeed. CL moves from a one-way communication process between the teacher and students to an open dialogue that promotes interaction and makes students thinking open and visible (Bransford et al., 2000). Petty, (2001:6) noted a Chinese proverb that reads; "I am told, and I forget. I see, and remember. I do, and understand." The above saying simply shows that the moment the learners are actively involved their recalling capacity is enhanced.

## **2.7 Theoretical frameworks undergirding research that has been done on cooperative learning**

The study is mainly guided by Vygotsky, *ubuntu* and Feuerstein theories. Theory triangulation is used in this study. This is an approach where multiple theoretical perspectives are employed to examine and interpret the data in the same study (Chingombe & Chingombe, 2012:55).

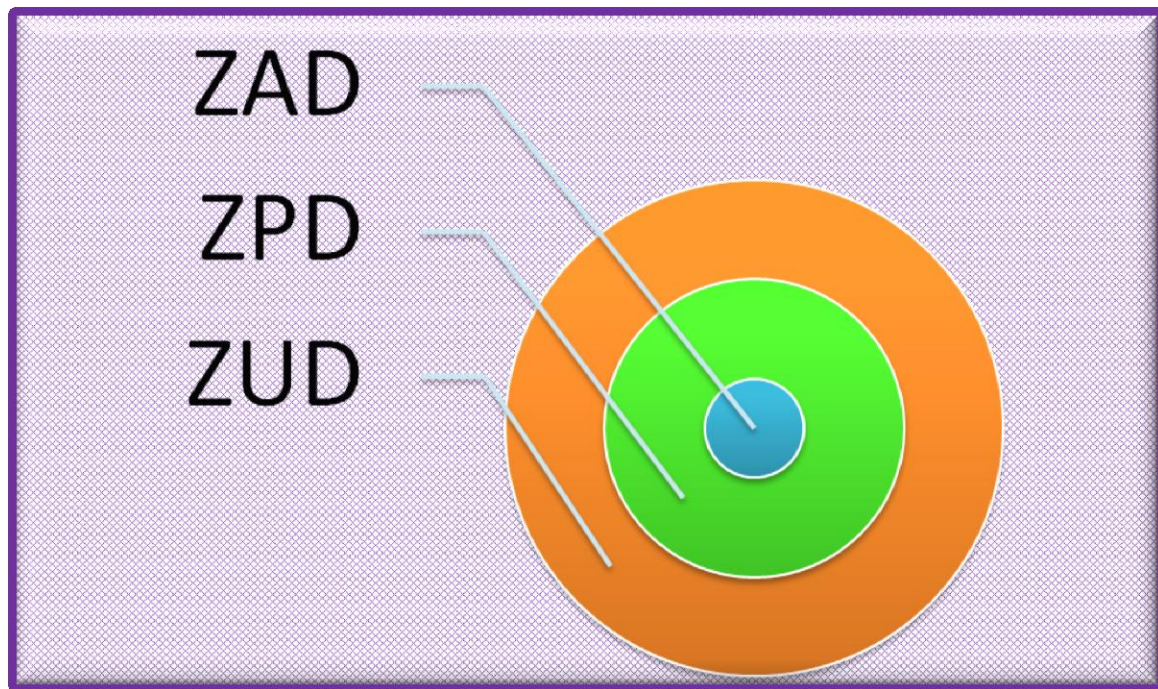
### **2.7.1 Vygotsky's views on cooperative Learning**

Vygotsky highlights that learners acquire knowledge through interaction and collaboration with peers and people in their environment (Criticos, Long, Mays, Moletsane, Mityane, Grosser & DeJager, 2012). Teamwork among pre-service students instils the spirit of working towards achieving a common goal. Vygotsky's perception of the Zone of Proximal Development (ZPD) is perceived as a fundamental notion to



cooperative learning. According to Vygotsky, ZPD refers to the difference between what a child can do unaided and what they can achieve with the support of More Knowledgeable Others ( MKO), (Long, Wood, Littleton, Passenger & Sheehy, 2011:187). The sociocultural theory development suggests that learning takes place when students solve problems beyond their current developmental level with the support of their instructor or peers (Brame & Biel, 2015). Through cooperative learning, the pre-service students can get assistance from their colleagues who have some experience, enabling them to accomplish the task at hand in a better way.

The fundamental assumption of the developmental perspective on CL is that interaction among children around appropriate tasks increases their mastery of critical concepts (Reynolds & Miller, 2003, 182). The ZPD enhances co-operative learning among the pre-service students.



**Figure 2.6: A Model for ZPD.**

The above diagrammatic presentation shows the relation between the Zone of Achieved Development (ZAD), ZPD and the Zone of Unachieved Development (ZUD). The ZAD represents what learners can do. MacGillivray and Rueda (2000 :1) concede that the

fact that a Learner Already Knows (LAK) before a novel skill is imparted or new information is presented will necessitate the sharing of ideas during the cooperative learning. This indicates that learners can autonomously undertake responsibilities even during the absence of assistance from others because they have prior knowledge. If a teacher remains at the core of teaching and learning, there is likely to be a manifestation of boredom among learners. The ZUD represents what learners cannot do. It reflects that even with support pre-service students may not be able to learn; and this habitually results in frustration and an undesirable approach towards cooperative learning. During the ZPD, learning can progress with the backing from the knowledgeable others. If there is no backing from the knowledgeable others learning may be hindered. This is a vibrant zone. Vygotsky is of the view that the ZPD is the term for the range of tasks that are too difficult for the child to master alone but can be learned with guidance and assistance of adults and more skilled children (Santrock, 2011:50). It is therefore the aptitude to solve problems jointly or in partnership with MKO in this case, other the pre-service students. The idea is that after completing the task jointly, the learners are likely able to complete the same task individually next time, and through that process, the learner's ZPD for that particular task will have been raised (Shabani, Khatib & Ebadi, 2010:238).

The ZPD designates the tenacities that have not emerged but are developing. As a result, learning takes place whenever there is support from the significant others. Tuckman and Monnetti (2011) distinguish between the level of tasks that children can perform without any help (actual development), and the level of tasks they can perform with the assistance from someone more competent, either an adult or peer (potential development). Thus, Vygotsky was in support of social collaboration in facilitating children to effectively complete given responsibilities within their ZPD. The teacher-learner contact turns out to be more of a partnership relationship. The ZPD associates that which is well-known to that which is unfamiliar. The key objective of CL in the ZPD is to ensure that students are enthusiastically involved with the upcoming panorama of suitable self-directed lifetime learners.

Fisher (2001:90) contends that children learn best when they have access to generative power of those around them. In addition, Sardareha and Saadb (2012:346) assert that students learn better through interaction with other students and their teacher and it helps students to improve critical thinking skills and use other students' as well as teacher's comments on their work to enhance their learning. Learners can thus do well with the guidance and support from peers or the significant others. Vygotsky advocates for interactions with other people. CL awakens a variety of internal developmental processes that are able to operate within an individual. Cohen, Brody and Sapon-Shevin (2004:3) are of the view that CL can allow all students to work together, each student experiencing the role of a teacher and a learner, and each student modelling recognition of and respect for many different skills and learning styles.

Vygotsky believes that well designed instruction is like a magnet which, if it is aimed slightly ahead of what children know and can do now, will pull them along, helping them master things they cannot learn on their own (Snowman, McCown & Biehler, 2009:77). Scaffolding is the assistance given to the child to accomplish a task when they are unable to complete on their own (Eggen & Kauchak, 2010). CL tries to eliminate the misconception by Freire (1970, in Donald et al, 2010:252) which explains why he proposed problem-posing or transformative education instead of banking methods. This suggests that pre- service students cannot learn during the absence of their lecturers waiting for lecturers to initiate the learning process. This has been referred to as the banking concept. Contemporarily, this is viewed as the talk-and-chalk teaching approach (McCain, 2005:125). Teachers are supposed to talk and write on the board simultaneously. The presence and ideas of learners are not valued at all since teachers are active participants throughout the whole session. In addition, teachers are considered and perceived to be the reservoirs of knowledge who would demand students to give responses to the given questions as per expectations of the teachers. Such an approach has the potential to create stress and anxiety among learners who are the focal point in the class. If a student errs, he or she may encounter some scrutiny and criticism from the entire class. As a result, one's self-esteem is thwarted. This approach should be discarded as it disregards some students who are born with some innate abilities to solve puzzles.

### **2.7.2 Feuerstein's views on cooperative learning**

Reuven Feuerstein (1990)'s notion of a learner is anchored on the phenomenon of mediated learning experience (MLE). Mediated learning is the process of learning which occurs when another person serves as a mediator between the child and the environment, for example parents, teachers and more competent peers. Issues such as respect, tolerance, celebrating each other's differences are all implied in this important aspect of mediation and cultural transmission (Nyborg, 2011:101). There is no inducement for pupils to learn as they have to be present to hear one another's viewpoints (Reynolds & Miller, 2003:183). When students are set or select a precise area, they might experience a sense of self-efficacy once accomplishing it, and this is authenticated as they work at the task and witness their own success

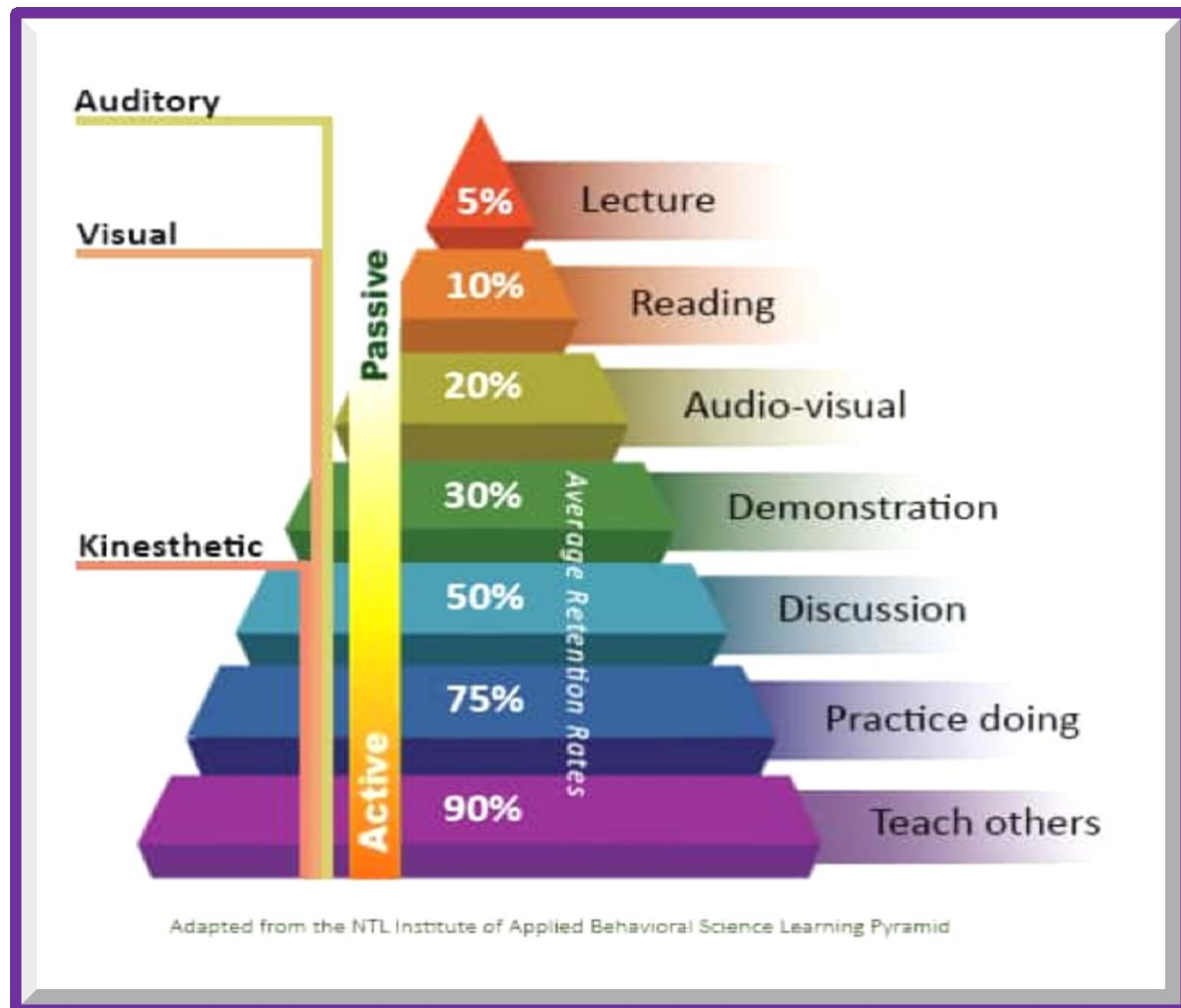
In MLE, the role of the mediator is therefore to help, encourage and steer the novice towards making a distinction between long-term goals, hopes and dreams, and immediate, achievable, short-term goals (Schur, Skuy, Zietsman & Fridjhona, 2012:39). Through cooperative learning, mediation enhances the competence and ability to apply the learnt ideologies to suitable situations (Nawaz, Hussain, Abbas & Muhammad (2004:128). The more individuals work cooperatively with others, the more they see themselves as worthwhile and as having value, the greater their acceptance and support for other and the more autonomous and independent they tend to be (Johnson & Johnson, 2014:843). The lecturers are considered to be the mediators. Pre-service students' self-concept is enhanced through cooperative learning. The teacher- as mediator will be attempting to seek ways which transform students from passive recipients (Kaufman, 2004:109). This is chiefly achieved in communitarianism advocated through *ubuntu*. Huang (2000:258) confirms that receiving information from a partner is beneficial because of the increased access to help, as well as the opportunity to observe learning strategies used by partners. Mediated learning seeks to transform students from passive recipients into active generators of their own learning (Kaufman & Burden, 2004:108). Through mediated learning, the students are considered to be masters of their own learning. They are not coerced to participate; but feel that they have an obligation in their acquisition of knowledge. CL ensures that students achieve

their potential and experience psychological success so that they are motivated to continue to invest energy and effort in learning (Johnson, Roger & Johnson, 2014:846).

McLaughlin and Mills (2014:2) contend that, if students are to learn desired outcomes in a reasonably effective manner, then the teacher's fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes. Typically, inspired students support their colleagues in a group instead of competing against one another. Furthermore, children are more receptive to their peers' ideas than to those of their teachers because peers' ideas are seen as more personal and less threatening (Gillies & Ashman, 2003:12).

In the MLE (MLE) model, Feuerstein describes a special type of interaction between a learner and another person, whom we shall call a "mediator." A mediator is the MKO who can be a teacher, parent or the colleague. In the model, the teacher delivers an appropriate stimulus (e.g., homework, test, or assignment), and then observes the response of the learner to the stimulus. Incorporating MLE discourages the traditional class activities which create a win- lose situation, where one can only succeed if the other loses, while CL is direct opposite to it as conquest of all is success of all (Gull & Shehzad, 2015:247). Thus, during CL activities, each member is responsible not only for learning what is taught but also for helping team- mates learn, thus creating an atmosphere of achievement where individual success is depended upon group efforts (Tsay & Brady, 2010:2). It can be established that FIE seeks to provide students with the concepts and techniques necessary to function as independent learners; to diagnose; and to help students learn how to learn. As students work cooperatively they gain from each other's efforts; they share a common fate and feel proud for group success (Akhtar, Perveen, Kiran, Rashid & Satti, 2012:142). They will be teaching each other to achieve a common goal. A learning pyramid below shows how teaching others is of significance to the students.





**Figure 2.7: A Learning Pyramid Showing Significance of Teaching Others.**

According to the learning pyramid model, students are able to retain about 90% of what they are able to teach to others. The best approach of teaching others is through cooperative learning. Throughout the learning process a team member in every group will be able to know their peers better and this will assist them to observe and monitor directly their peers' performance (Fauziah, Surianr & Elnethra, 2016:69). The pyramid also reflects that active learning takes place as they teach each other. Shabani, Khatib and Ebadi (2010:238) assert that individuals learn best when working together with others during joint collaboration, and it is through such collaborative endeavours with more skilled persons that learners learn and internalize new concepts. They also proposed a Feuerstein's instrumental enrichment program (FIE) which is a cognitive education program that was begun in the 1950s. The theory is aimed at improving

learning and teaching, increasing motivation and achievement, promoting inclusions and equality, improving behaviour and discipline and equipping learners to “learn how to learn and think” (Nyborg, 2011:101). This maximises the opportunities for student-student interaction with meaningful input and output in a supportive environment (Ahangari & Samadian, 2014:121).

### **2.7.3 *Ubuntu* and cooperative learning**

My argument and submission in this section is that CL can essentially be understood to have its origin in *ubuntu* philosophy. Higgs (2003:13) argues that the underlying concern of “*ubuntu*” acknowledges that to be humane is to affirm one’s humanity by recognising the humanity of others. Thus, *ubuntu* can act as a source and well-spring of CL since *ubuntu* itself has unity and cooperation and working together (togetherness) as necessary aspects that constitute it. CL cannot exist without the support of *ubuntu*. Letseka (2012:748) argues that amongst scholars who subscribe to the philosophy of *ubuntu*, Mbiti’s ideas seem also to help us in understanding the value and place of *ubuntu* in cooperative learning. Letseka further observes that Mbiti is credited for connecting African communities and the notion of community with his most cited maxim: “I am, because we are; and since we are, therefore I am”. The deeper thrust and emphasis of this principle is togetherness and cooperation. Our togetherness, as human beings, is not by chance or accident but cooperation is a necessity and our substance. Cooperation is that which originally places us into existence and in it we exist.

*Ubuntu*, as togetherness or cooperation teaches us that, the success of the class is perpetuated by teamwork but not at the expense of the individual. *Ubuntu* therefore aims to eliminate the spirit of individualism perpetuated through such teachings as, ‘*Ini ndini, lwe ndiwe*’ (I am, you are), which emphasize the individual separateness from other members of the community (Hapanyengwi-Chemhuru & Makuvaza, 2014:3). Nicolson (2008:9) characterises and understands *ubuntu* as in essence cooperation or teamwork and further argues that from an African perspective, the group understands that it is important to produce work and to finish the task at hand rather than competing as individuals in a hundred meters race. The emphasis is on communal values which

mean that, in African tradition, community decisions are by preference made by consensus rather than by an individual.

Higgs (2003:15) posits that the development of cooperative skills in younger people will, play a crucial role in promoting and sustaining the sort of communal interdependence and concern with the welfare of others that is encouraged by '*ubuntu*.' Consequently, individuals rely on others just as they also greatly rely on them . Through *ubuntu* CL approaches take advantage of heterogeneity in class by encouraging learners to learn from one another and from more and less knowledgeable peers (Akhtar, Perveen, Kiran, Rashid & Satti, 2012:144). What it means is that *ubuntu* can inspire, permeate and radiate, as confirmed by Samkange and Samkange (1980:8), its nature of connectedness and togetherness into the essence of cooperative learning. Similarly, Mandova and Chingombe (2013:100) identify *ubuntu* as fecund source offering assistance and foundation to social activities like CL and they further argue that *ubuntu* is a social philosophy which embodies virtues that celebrate the mutual social responsibility, mutual assistance, trust, sharing, unselfishness, self-reliance, caring and respect for others, among other ethical values. Thus, infused and radiated with *ubuntu*, CL students do not have a goal to learn only, but also have a goal to help others in their group to learn (Petty, 2006:150).

Iyer (2013:2) shares his conceptualization and understanding of CL and argues thus: "This is unlike in a race where individuals strive to be in the first position. During CL activities, each member of a team is responsible not only for learning what is taught but also for helping team-mates learn, thus creating an atmosphere of achievement". For CL to achieve this important task and goal it has to employ and be intimately and deeply rooted in *ubuntu* since *ubuntu* has as its foundation or essence a relationship based on and characterized by sympathy, empathy, generosity, sister and brotherliness and many other similar moral qualities. Accordingly, through *ubuntu*, pre-service students can engage in CL to assist their colleagues to achieve set goals. In support of this point, Msila (2009:312) argues thus: "Communal aspects of African philosophy, when infused in education, can help create a community of learners who glean from one another in an unselfish manner".

Without *ubuntu* there is no CL but individualism which celebrates that if one member falls along the way no one turns to assist the fallen competitor. Instead, one can rejoice over the failure of the other individual as this increases one's chance to be in the first position. Individualism is thus not learning but taking advantage of each other. What is needed is CL which is achieved and accomplished through interpersonal relationships with the group members and this is genuine learning. Hence Mandova and Chingombe (2013:101) observe and identify *ubuntu* as the better tool in order to promote CL and they argue that the traditional Shona society celebrates co-operation and discourages individualism. Human beings adapt to the community life which they rarely work alone but always tend to interact in a safety social medium which supplies them the necessary support to continue their life. (Gubbad, 2010:13). In concurrence, Letseka and Venter (2004) assert that the individual cannot exist alone hence whatever happens to the individual happens to the whole group, and whatever happens to the whole group happens to the individual. This can only be achieved through *ubuntu*. Brame and Biel (2005:2), in support of CL through *ubuntu*, assert that the success of the group is hinged upon the efforts of individuals within the group. The small groups are essential because students are heard and are able to hear their peers, while in traditional classroom setting students may spend more time listening to what the instructor says.

The nature and character of CL essentially calls for *ubuntu* as its foundation since CL promotes a non-racialism, non-sexism, non-discrimination, and respect for freedom, human rights promotion and dignity of people, inter-dependence and a deep-rootedness of a collective community (Johnson, 2015:4). CL is thus one moral disposition or quality of *ubuntu*. Uprooted from *ubuntu*, CL therefore loses meaning and value. Through *ubuntu*, CL ceaselessly enhances communalism wherein pre-service students depend on each other as they promote teamwork and thus become actively engaged and responsible for their own learning in a class. Since community enhances creativity and innovativeness in the culture of learning (Mthiyane, 2014:140), students from different cultural settings are expected to work as a team in a CL situation. This creates good human relationships and increases human value, trust and dignity (Venter, 2004:151). In order for CL to achieve these significant qualities and goals, it ought to, of necessity,

rely strongly on *ubuntu*. In actual fact, CL ought to be an activity consolidating *ubuntu* principles.

In addition, CL needs *ubuntu* because, as students work cooperatively, they become open and available to others, affirm and respect others, and do not feel threatened by the strengths or abilities of others as they recognize that they belong to a greater whole (Johnson, 2015:4). *Ubuntu* thus refers to essential and basic moral qualities needed by students involved or engaged in cooperative learning. Without *ubuntu* critical moral axioms are impossible to attain and this in turn makes CL empty, a lie, falsity and impossibility. With *ubuntu*, these students identify themselves with their colleagues. Thus, students will work tirelessly towards achieving a common goal since *ubuntu* tends to shed selfishness and egocentrism among learners (Msila, 2009:314) and, in theory, *ubuntu* ensures that no voice goes unheard (Nicoloson, 2008:9).

Interconnectedness and working together constitute the centre and basis of *ubuntu*. Applied to CL, these *ubuntu* qualities can inspire students to feel that from such a perspective, it is important to observe that opinions of the group are at the core as illustrated by the Shona expression *rume rimwe harikombi churu* (one man cannot surround an anthill), which means that it takes the effort of a group to do something meaningful (Mangena, 2012:10-11). In addition, Masowa and Mamvura (2017:34) submit that *ubuntu* values togetherness / oneness and shuns individualism as reflected in the following Shona proverbs:

*Kuchera mbeva kukomberana* (Digging after mice involves surrounding them).

*Kuturika denga remba kubatirana* (To put a roof onto the walls of a hut needs joining hands).

Hapanyengwi-Chemhuru and Makuvaza (2014:8) also argue that *ubuntu* emphasises interconnectedness. Through *ubuntu*, students should thus work hand in glove for them to succeed in their learning endeavours. Since whatever a person does must be for the benefit of the community to which he or she belongs, rather than seeing one as a secluded being (Bondai & Kaputa, 2016: 44). However, Nicoloson (2008:9) also

understands *ubuntu* as in essence community oriented and he argues that the emphasis on communal values means that in African tradition, community decisions are by reference made by consensus rather than by an individual. This implies that in cooperative learning, a substantial offshoot of *ubuntu*, students are expected to promote teamwork to come up with the decision for the whole group.

Higgs (2003:14) argues that *ubuntu* in an African educational discourse is fundamentally concerned with service of the community and personal well-being which is directed at fostering humane people endowed with moral norms and virtues such as kindness, generosity, compassion, benevolence, courtesy and respect and concern for others. With all that has been said about *ubuntu*, students ought to be engaged in cooperative learning, an essential quality of *ubuntu*, since it highlights that a human being is a human being through the otherness of other human beings (Johnson, 2015:2). Consequently, communal aspects of African philosophy of *ubuntu* when infused in education can help create a community of learners who learn from one another in an unselfish manner (Msila, 2009:312). In concurrence, *ubuntu* mainstreaming in the education curricula ensures and guarantees peace, harmony, spirit of brotherhood, togetherness, respect, solidarity, teamwork, unity, reconciliation and hard work among other important values (Bondai & Kaputa, 2016:40). The impression is that there is need for *ubuntu* in CL for peace, love and harmony among students.

Furthermore, since students should be devoted to tasks under study and are obliged to respect varied views from their colleagues, students must be well rooted, groomed and vested in *ubuntu* philosophy. *Ubuntu* is a philosophy that valorises being human and the interconnectedness of human beings (Hapanyengwi-Chemhuru & Makuvaza, 2014:8). Accordingly, community becomes the ultimate interest of *ubuntu*, that for which individuals sacrifice even life. Thus, in a learning environment, students, through *ubuntu*, can sacrifice to get the same mark with colleagues who may not be doing well. This is so because *ubuntu* has a link with communal interdependence; it also has a link with the value of love, sympathy and tolerance (Letseka, 2012: 748). Subsequently, *ubuntu* ensures that an individual should not be an entity existing and flourishing on its

own, unconnected to any community. Msila (2009: 314) contends that *ubuntu* is one of the cornerstones of democracy in an African context as it demands one to live for others. Individuals thus need to identify with others. To identify with each other is largely for people to identify themselves as members of the same group, that is, to conceive of themselves as 'we', for them to take pride or feel shame in the group's activities, as well as for them to engage in joint projects, co-ordinating their behaviour to realise shared ends (Metz 2011, 538) Through cooperative learning, one can live for others by ensuring that they are committed to the progress of the group. Conversely, the absence of *ubuntu* leads to tension, conflicts, frustration and disintegration of basic human relationships and community, because *ubuntu* does not merely represent positive human qualities; it is the very human essence itself, which enables human beings to become *abantu* (humanised beings), creating harmonious relationships in the community and the world beyond (Bitzer, 2001:100). The African concept of personality as already highlighted is based on the idea that Africans are inherently predisposed to work collaboratively and demonstrate interdependence, empathy, selflessness, communalism and interconnectedness (Kufakunesu & Dekeza, 2017:54).

## **2.8 Summary**

This chapter focused on CL strategies teacher educators use in pre-service secondary school teacher education. Emphasis was placed on teacher educators' use of CL strategies. In addition the chapter also addressed issues on how teacher educators support current learning strategies through CL in pre-service secondary school teacher education. Vygotsky, Feuerstein and *ubuntu's* contributions to CL were discussed. The subsequent chapter focuses on research methodology.

## **CHAPTER 3**

### **RESEARCH DESIGN**

#### **3.1 Introduction**

This chapter discusses the design strategies underpinning this research study. Furthermore, the chapter focuses on research methodologies, analysis methods and explains the stages and processes involved in the study. Questionnaires, face-to-face interviews and focus-group discussions were used as data generation methods. Each of the data collection methods used in the study was justified.

#### **3.2 Research design**

A research design is a plan of how the researcher systematically collects and analyses data that is needed to answer research questions (Bertram & Christiansen, 2014:40). It is a comprehensive plan for data collection in empirical study that aims at specifying data collection instruments, sampling process and instrument development process (Bhattacharje, 2012:35). Kothari and Garg (2014:30) further state that a research design stands for an advance planning of the methods to be adopted for collecting relevant data and the techniques to be used. Kumar (2014:2) is of the view that a research design is the roadmap that one decides to follow during research journey to find answers to research questions as validly, objectively, accurately and economically as possible. This study is located within a qualitative phenomenological research design which was espoused to identify the CL strategies used by secondary school teacher educators. A qualitative research design is the “logic that links data to be collected (and the conclusions to be drawn) to the initial questions of the study” (Yin, 2009:24). A qualitative design was adopted because it is an approach that allows the researcher to examine pre-service students’ engagement in CL in detail using a specific set of research methods (Hennick, Huttler & Bailey, 2011:9) by getting in-depth opinion from the participants (Dawson, 2002:14). Qualitative researchers focus on the views of the people involved in the study as well as their perceptions, meanings and interpretation. It is therefore imperative that an efficient and appropriate design must be prepared before starting research operations (Kothari & Garg, 2014:30). This helps to organise ideas in a form that makes it possible to look for flaws and inadequacies. Kumar (2014:123)



explains that a research design is a plan through which one decides for him/herself and communicates to others the decisions regarding the study design and how one will select the respondents, collect information from them, analyse this information, and communicate the findings. The function of the research design is to ensure that the procedures undertaken are adequate to obtain valid, objective, and accurate answers to the research questions (Kumar, 2014:124). The researcher thus guarantees that professionalism is respected in conducting the study, and ensures that the study fulfils a particular purpose and can also be completed with the available resources (Blanche, Durrheim & Painter, 2006:34). A research design is needed because it facilitates the smooth implementation of various research operations, thereby making research as efficient as possible and yielding maximal information of effort, time and money (Kothari & Garg, 2014:30). A research design is necessary for explaining the logic of the research process as it moves from one phase to the next (Denscombe, 2010:100).

A qualitative approach was adopted as the study sought to discover and, using narrative reporting, describe what particular people do or experience in their day to day lives (Denzin & Lincoln, 2011:43). In this research, it was used to ascertain whether CL strategies promote effective teaching and learning. Qualitative research explores the attitudes, behaviour and experiences of participants in an attempt to get in-depth opinions from them (Dawson, 2002:14). The researcher focused on co-operative learning strategies in teacher preparation to develop an understanding of how students and lecturers engage in cooperative learning. Hennick, Hutter and Bailey (2011:9) observed that qualitative research covers an array of interpretive techniques which seek to describe, decode, translate and come to terms with the meaning of naturally occurring phenomena in the social world. Qualitative research was therefore employed to acquaint the researcher with issues around cooperative learning from the viewpoint and perspectives of pre-service students and their lecturers. The inspiration for doing qualitative research is based on the quest by the researcher to gather first-hand information from research participants as this enables addressing the 'why' and 'how' questions (Denscombe, 2010:94). These are some of the questions that this study tried to answer in addressing how lecturers and students are engaged in co-operative learning.

Phenomenological research is a design of inquiry in which the researcher describes the lived experiences about a phenomenon as described by the participants (Creswell, 2014:242). Magwa and Magwa (2015:59) explain that phenomenological research focuses on participant's perceptions of the event or situation. In applying the phenomenological design, the researcher was anxious to know how CL is being implemented in pre-service teacher education in the two institutions. This was premised on the basis that the phenomenological design allows the researcher to gain an understanding of the social phenomenon from the participant's perspective in their natural setting (McMillan & Schumacher, 2010:315). The researcher solicited data on the use of CL from research participants in their natural setting at the two universities.

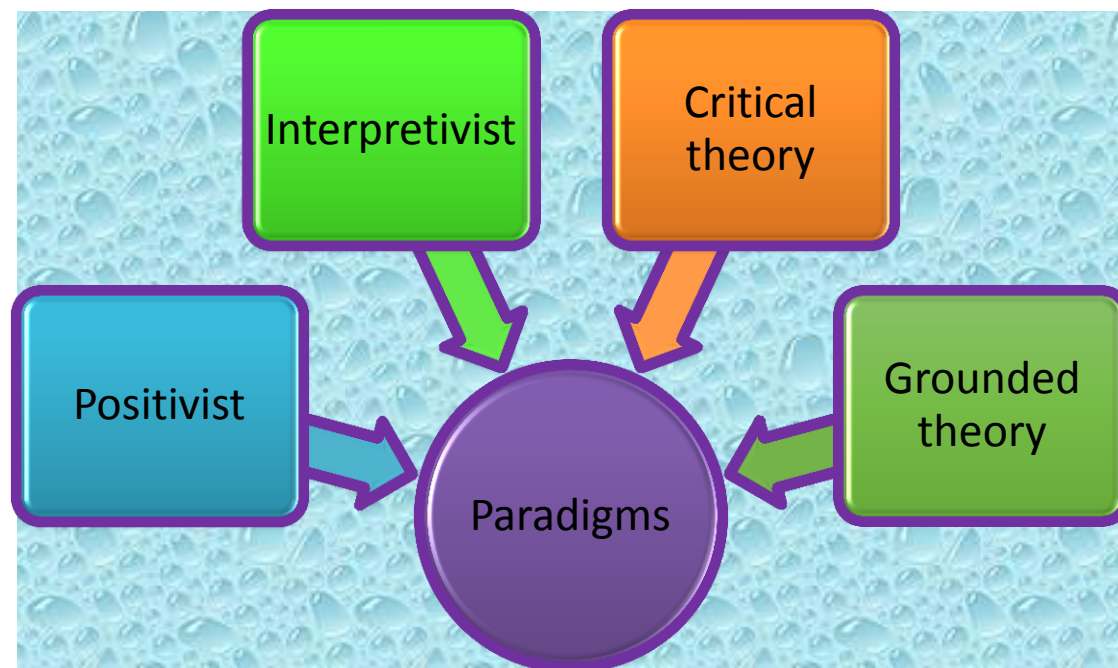
The researcher's objective was to critically investigate the use of cooperative learning, since the phenomenology approach focuses on how life is experienced (Denscombe, 2010:94). Relating to the phenomenology design, the researcher was concerned with the lived experiences of students and lecturers as they engaged in cooperative learning. The pre-service students hence described the influence of CL on their studies. Tavakoli (2012:464) argues that phenomenology is the study of lived or experiential meaning and attempts to describe and interpret these meanings in an attempt to coalesce them into a connected whole. A phenomenological design aims to develop a complete, accurate and clear description and articulate understanding of a human experience (Magwa & Magwa 2015:59). This approach thus enabled the researcher to describe fully the use of CL learning at MSU and GZU.

### **3.3 Research methodology**

Research methodology is the overall approach to studying a topic and includes issues to think about such as the constraints, dilemmas and ethical choices within a research (Dawson, 2002:14). It is a way to systematically solve the research problem (Kothari & Garg, 2014:6). Research methodology involves some research paradigms, which are models or frameworks for observing and understanding both what we see and how we understand it (Babbie, 2007:32). Paradigms define researchers' nature of inquiry three dimensions of: ontology, epistemology and methodology (Blanche, Durrheim & Painter, 2006:6). While ontology specifies the nature of reality, epistemology specifies the nature

of relationship between the researcher and what can be known, and methodology is how the researchers may go ahead studying what they believe can be known ((Blanche, Durrheim & Painter, 2006:6). This reflects that paradigms form a backbone for considering a given phenomenon, guiding the researcher through research activities. Paradigms are fundamental conceptions of how to do a research in a specific field with consequences on the levels of methodology and theory (Flick, 2014:540). Somekh and Lewin (2005:347) also define the word 'paradigm' as a term used to describe an approach to research, which provides a unifying framework for understanding knowledge, truth, values and nature of being. Paradigms are therefore vital for accepting and deciding the appropriate methodology to use in the study.

Basically, there are four paradigms, namely the positivist, the critical, the interpretive and the grounded theory. Below is a pictorial presentation to show the three types of paradigms.



**Figure 3.1: Forms of Paradigms.**

The term positivism was first coined by the founder of positivism, Auguste Comte, a French philosopher who believed that reality can be observed (Mack, 2010:6). The

positivist paradigm emphasises an objective measurement of social issues where it is assumed that reality is made of facts, and that researchers can observe and measure reality in an objective way with no influence of the researcher on the process of data collection (Hennick, Hutter & Bailey, 2011:14). O'Leary (2004:5) is of the view that positivists test a theory or describe an experience through observation in order to predict and control forces that are around it. During the study, one is obliged to observe how participants behave. For positivists, the aim of the research is to discover the patterns and regularities of the research by using scientific methods to good effect (Denscombe, 2010:324). The researcher ought to gather data and analyse it. The data collected ought to be measurable, objective, predictable and controllable. Positivists assume that reality is objectively given and is measurable using information which is independent of the researcher. Hennick et al. (2011:14) point out that there is an emphasis on objective measurement within positivism, where it is assumed that the reality consists of facts and that researchers can observe and measure reality in an objective way without the influence of the researcher on the process of data collection. Knowledge is objective and quantifiable. In a positivist worldview, science is seen as the way to get at truth, to understand the world well enough so that it can be controlled by a process of prediction (Henning, Rensburg & Smit, 2004:17). Positivist methodology is logical, and it is apprehensive with the projection and regulation of occurrences involving testing hypothesis to support or condemn a theory.

Critical theory questions the political nature of multiple perspectives by maintaining that some relationships in the world are more powerful and worthy than others (Henning et al., 2004:23). In critical inquiry, the goal is to critique, and it focuses less on individuals than on context (Merriam, 2009:35). Its principle is not to recognize situations and phenomena, but to transform them. Critical theory seeks to unravel the truth in particular, to set free the disempowered, to rectify inequality and to uphold individual freedoms within a democratic society. Critical theorists argue that the positivist and interpretive paradigms are not worried about questioning and transforming the phenomenon. Somekh and Lewin (2005:344) trace the origin of critical theory to a group of philosophers in Germany who emphasised the importance of looking beyond the surface of what people say, write, and do, but to analyse the unspoken power relations

governing their actions and understanding. This reflects that a study can be done, and modifications can be done by other researchers to the same phenomena. Cohen, Manion and Morrison (2000:28) opine that critical theory's intention is not merely to give an account of society and behaviour but to realise that a society is based on equality and democracy of its members. They further assert that it seeks to emancipate the disempowered, to redress inequality and to promote individual freedoms within a democratic society.

The interpretive paradigm design was used in this study. The aim was to understand the use of CL in teacher education. The interpretive paradigm emphasizes the importance of examining the world from participants' point of view (Tracy, 2013:41). Interpretivism's main tenet is that reality can never be objectively observed from the outside, it must rather be observed from inside through the direct experience of people (Mack, 2010:8). The researcher takes an active role in getting closer to the participant's personal world. Interpretive paradigm is concerned with understanding what it is like from the perspective of participants. From an interpretive point of view, a researcher can clearly explain, describe or translate into a research report what is reproduced through communication, interaction and practice (Tracy, 2013:40). Cohen et al. (2000:28) recommend the interpretive paradigm for striving to understand and interpret the world in terms of its actors. Hennick et al. (2011:15) applaud the interpretive approach for allowing the researcher to study things in their natural setting in an attempt to make sense of or interpret phenomena in terms of the meanings people bring to them. Hennick et al. (2011:19) acknowledge that the perspectives of the study participants reflect their subjective views of their social world, and researchers also bring their subjective influence to the research process, particularly during data collection and interpretation. This is brought about by the use of open-ended questions. These enable various respondents to give their varied suggestions and views on a particular case under study.

While positivists believe in maintaining a distance between the researcher and the researched to gather unbiased objective data, interpretive researchers acknowledge and explore the cultural and historical interpretations of the social world (O'Leary,

2004:10). Within positivism, there is an emphasis on objective measurement of social issues where it is assumed that reality consists of facts and that researchers can observe and measure reality in an objective way with no influence from the researcher on the process of data collection (Hennick et al., 2011:14). The assumption of interpretive research is that there is no single correct route or particular method to knowledge. From the perspective of this study, the proposition is therefore to understand the views of participants, that is, student teachers and lecturers regarding their engagement in cooperative learning.

Grounded theory is also one of the paradigms used in this research. Tavakoli (2012:247) defined grounded theory as a general methodology of analysis in qualitative research which seeks to build systematic theoretical statements inductively from coding and analysing data. In grounded theory, methods such as FGDs and interviews tend to be preferred data collection method along with comprehensive literature review which takes place throughout the data collection process (Dawson, 2007:20). The emphasis in this methodology is on generation of a theory which is grounded in the data (Tavakoli, 2012:247). To this effect, the research generated two theories based on the data collected. These are the ecological supportive learning and communalist enhanced learning theories discussed in Chapter 5.

### **3.4 Research methods**

Research methods may be understood as all those techniques that are used in performing research operations (Kothari & Garg, 2014:6). This study sought to understand the use of CL in pre-service teacher education in Zimbabwe. The researcher used questionnaires, in-depth one-to-one interviews and FGDs to generate data which address this topic. Since research instruments are fundamental procedures in accomplishing the research, research credibility, therefore, chiefly depends on the appropriateness of the instruments. For that reason, there is need to decisively choose instruments that are liable to present anticipated results.

**Table 3.1: Data Planning Matrix**

<b>Research Question</b>	<b>Data Needed</b>	<b>Data Collection Methods</b>
1. What CL strategies do teacher educators in pre-service secondary school teacher education use in their teaching and learning?	Which CL strategies do teacher educators in pre-service secondary school teacher education use?	<ul style="list-style-type: none"><li>- FGDs</li><li>- Interviews</li><li>- Questionnaire</li></ul>
2. How do teacher educators in pre-service secondary school teacher education use CL strategies?	Views on how teacher educators in pre-service secondary school teacher education at MSU and GZU use CL strategies.	<ul style="list-style-type: none"><li>- Interviews</li><li>- FGDs</li><li>- Questionnaire</li></ul>
3. How can current learning strategies in pre-service secondary school teacher education be supported more effectively through cooperative learning?	How do they implement/ carry it out, roles played by both students and lecturers during cooperative learning	<ul style="list-style-type: none"><li>- Questionnaire</li><li>- Interviews</li><li>- Discussions</li></ul>
4. Why are CL strategies instructionally important to pre-service secondary school teacher education?	What are the success stories or failures in the implementation?	<ul style="list-style-type: none"><li>- Interviews</li><li>- Discussions</li><li>- Questionnaire</li></ul>

### **3.4.1 Questionnaires**

Questionnaire was one of the data collection methods used in this study. Gray (2014:352) explains that questionnaires are research tools through which people are asked to respond to a set of questions in a predetermined order. A questionnaire is a

form which is prepared and distributed for the purpose of securing responses with questions that are factual and designed for securing information about certain conditions or practices, of which recipient is presumed to have knowledge (Singh 2006:191). Questionnaires consist of several questions printed in a definite order on a form or set of forms (Kothari & Garg, 2014:96). In a questionnaire, the same questions are usually given to respondents in the same order so that information can be collected from every member of the sample (Magwa & Magwa, 2015:76). Questionnaires can be administered in person, through the post, or electronically through e-mail (Denscombe, 2010). In this study, the researcher personally administered questionnaires to participants. Questionnaires were self-administered to enable any queries to be addressed immediately by the questionnaire designer if need arises (Cohen, Manion & Morrison, 2011:382). Self-administering enabled the researcher to check that all the sections were filled in.

Gray (2014:35) recommends that questionnaires should be kept short, simple and to the point. The researcher ensured that the questionnaires were reasonably short and simple to circumvent monotony for respondents. In this study, open-ended questions were used as these did not limit participants to select responses from prearranged possibilities. Kothari and Garg (2014:96) contend that the merit of questionnaire is that it is free from researcher bias allowing respondents to have adequate time to give well thought out answers. Participants had the freedom to frame and express their responses in their own words and thus had the opportunity to express varying views on the use of cooperative learning. Wagner, Kawulich and Garner (2012; 101) commend the questionnaires for providing the greatest possibility of anonymity as they can be returned with no indication of who has completed them (Wagner, Kawulich & Garner 2012; 101). The researcher emphasised that respondents should remain anonymous by not indicating their names on the instrument. Gray (2014:178) is of the opinion that speaking in public and especially on subjects where viewpoints are polarised may make some people particularly reticent to speak. The researcher therefore opted to use the questionnaires so that respondents were at liberty to share their views.



Questionnaires can have a drawback of responses rate that can be depressingly low (Gray, 2014:353). To curb the drawback, the researcher ensured that the questionnaires were filled in during her presence and collected them promptly. Kothari and Garg (2014:99) emphasise that, for questionnaires to be successful, they should be comparatively short and simple. This has been adhered to ensure that pre-service students are not bored and that they respond to all questions. However, some demerits of using questionnaires is that the researcher is not able to probe respondents for more detailed information for clarity (Wagner, Kawulich & Garner 2012; 101).

### **3.4.2 Interviews**

Interviews were one of the data collection methods used in this study. O'Leary (2004:162) defines an interview as a method of data collection that involves researchers asking respondents open-ended questions. The interview is often better than other data gathering devices because most subjects are more willing to talk than write (Denzin & Lincoln, 2011:343). It is against this background that this instrument was chosen to enable the researcher to get first-hand information from research participants. By using interviews, a researcher can reach areas of reality that would otherwise remain inaccessible such as people's subjective experiences and attitudes (Denzin & Lincoln, 2011:15). Kothari and Garg (2014:92) submits that interviews can be done in person or by telephone. The researcher used face to face interviews. Face –to – face interviews were opted for because they allow researchers to select carefully their potential respondents so that they get responses from just those people needed to fill necessary quotas ( Denscombe 2007: 10). An interview schedule was prepared so that the researcher does not deviate from the set of predetermined questions (Magwa & Magwa 2015:73). The purpose of standardisation and comparability is to create uniformity when several interviewees are involved in data collection. Alvesson and Karren (2011:98) explain that an interview is viewed as an instrument for reflecting the truth about reality 'out there' through following a research protocol and gathering responses that are relevant to it while minimising researcher influence and other sources of bias. Denscombe (2010:183) suggests that the researcher must make field notes during the interviews. The human mind is subject to inaccuracy and partial recalling. So if the

researcher delays to note down information from the interviewees some imperative points might be missed. However, audio recording was done in this study.

The purpose of an interview is to find out what is in someone's mind or to access the perspective of the person being interviewed (Denzin & Lincoln, 2011:271). The dynamics of the questions are determined by who engages in discussion with specific individuals at a time. The researcher solicited views from pre-service students on how they engage in CL. Their responses were audio recorded to enable the researcher to concentrate on verbatim statements expressed by participants (Dawson, 2002:66). This is to ensure that the interviewer records the answers exactly as given (Babbie, 2014:283). Wagner, Kawulich and Garner (2012:102) state that interviews tend to have a higher response rate as people tend to be more willing to agree to being interviewed than to filling in questionnaires, especially at home during their personal time. Participants tend to see filling in as a cumbersome task than mere talking. The other merit of interviews is that volumes of data can be collected within a short period.

Wagner, Kawulich and Garner (2012:103) argue that some of the demerits of using interviews include limitation to the anonymity of the respondents. This may lead some respondents to be uncomfortable or unwilling to share all that the researcher hopes to explore. The presence of the interviewer on the spot may over stimulate the respondents sometimes to the extent that the interviewees may give imaginary information just to make the interview interesting (Kothari and Garg 2014 :94 ). To curb this, the researcher assured respondents that the data collected will remain anonymous as much as possible. This assurance bestowed confidence in them as they contributed data for the study. The disadvantage of this method is that it is time consuming to analyse the data. Apart from that, there can be respondent bias where they try to please or impress and create false personal image. Denscombe (2010:188) concludes that the disadvantage of using interviews is that some people may say what they do not do. Thus there is a danger that some lecturers or even students may say what they are not doing during cooperative learning. Lecturers might say they are implementing CL yet they are not effectively doing it.

### **3.4.3 Focus groups discussions (FGDs)**

The other data collection method selected in this study was the FGD. Rule and Vaughn (2011:136) defined FGD as an interactive discussion between six to eight pre-selected participants. It is the interaction among participants and their dialogue that the method attempts to generate a record of. Welman, Kauger and Mitchell (2005:201) claim that focus groups consist of a small number of individuals or interviewees that are drawn together for the purpose of expressing their opinions on a specific set of open questions. FGD has been further defined as the interaction where participants discuss among themselves enhancing the researcher to understand the reasoning behind the views and opinions that are expressed by group members (Denscombe, 2010:179). The administering of the FGD methodology permitted the researcher to collect suitable quantity of information within a short period.

Focus group is considered to be a controlled group discussion on the basis that the group interaction generated through discussion is of prior importance to this methodology (Smithson, 2000:104). It is important to consider the duration for focus group meetings since participants are likely to suffer fatigue when discussions are long (Nyumba, Wilson, Derrick & Mukherjee, 2017:23). The meetings were scheduled for thirty minutes. The researcher ensured that she adhered to the scheduled time. The advantage of FGD is that it brings together people with varied opinions (Manion et al., 2011:432). Consequently, a wide range of responses are achieved during one meeting (Dawson. 2002:30). Focus groups are interactional and therefore a bit more demanding for the researcher who does not only have to remain focused on pursuing questions on topic guide, but also need to be attentive to group dynamics and interaction among participants (Barbour, 2014:313). Some follow up questions were asked by the researcher during the discussions to ensure the participants remained focused.

Hennick et al. (2011:90) blame the FGDs for lack of confidentiality which limits the discussion of sensitive issues. There is a risk that some students may go about spreading the information discussed in groups. This may limit or force some students not to volunteer sensitive information which might be needed in the study. If sensitive data is revealed there is a danger that some students might be victimised for that. De

Vos and Strydom (2011:503) suggest that focus group should be homogeneous and address the area of concern. In this scenario the pre-service students only were used as research participants. They further noted that more than one focus group might be used to enhance quality of the results. For this study, two focus groups were used. Resultantly, rich data was collected. Nyumba, Wilson, Derrick and Mukherjee (2017:23) submit that one potential shortcoming of FGD is lack of guarantee that all the recruited participants might turn up for the discussion. To minimise low turnout, the researcher contacted participants a week before the meeting. A further follow up was done a day before the actual day to ensure that all the participants were available.

### **3.5 Population**

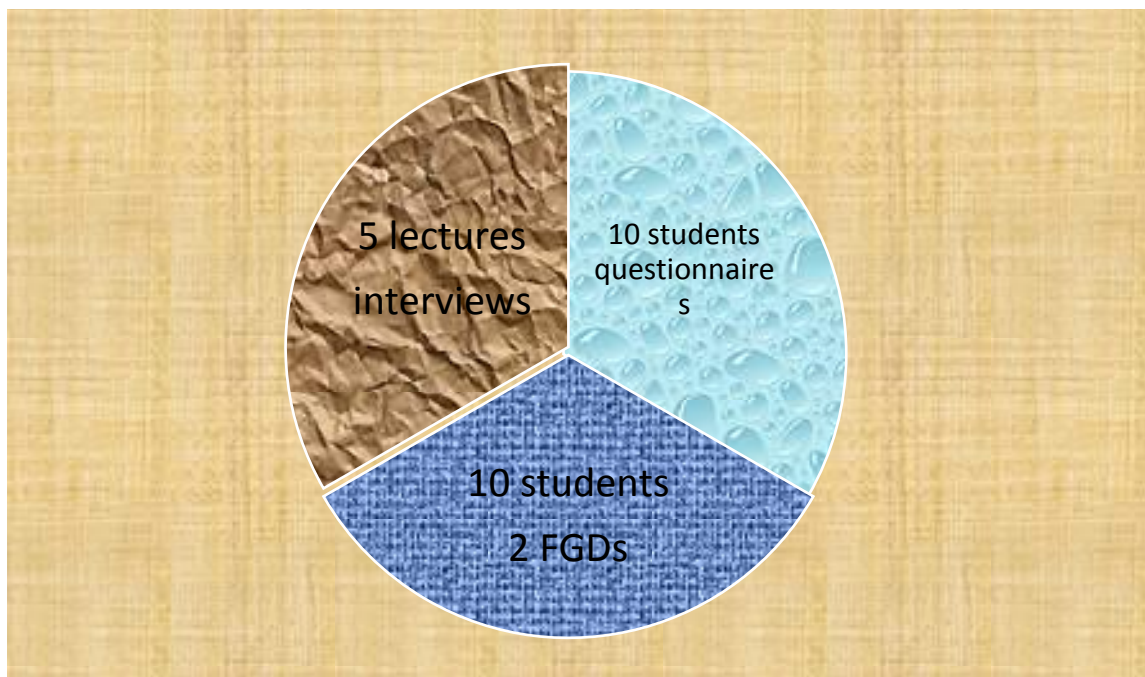
A population involves individuals who are legible to participate in the study (Andres 2012:93). Welman, Kauger and Mitchell (2005:52) describe a population as encompassing the total collection of all units of analysis about which the researcher wishes to make conclusions. It is a full set of cases from which a sample is taken. A population consists of all subjects you want to study. This study was carried out in two state universities in Zimbabwe namely, Midlands State University and Great Zimbabwe University. Focus was on critical investigation of the use of CL strategies in pre-service secondary school teacher education in the selected state universities,. The target population comprised bachelor of education students at the two institutions. The total number of students' population was one thousand. The researcher's focus was on the pre-service students and their lecturers at the same institutions. Focussing on the students and their lecturers enabled the researcher to gather rich data on the usefulness of CL to the research participants. The lecturers highlighted cooperative strategies they employ. The two institutions were selected on the basis of their convenience and proximity to the researcher. This enabled the researcher to have ample time to observe how CL was being implemented in the institutions.

#### **3.5.1 Sample**

Alvesson and Karella (2011:93) define a sample as "a portion or a subset of a larger group called a population." In concurrence, Bless and Higson-Smith (2010:85 ) also

defined a sample as a subset of the whole population which is actually investigated by a researcher whose characteristics are generalised to the entire population. This reveals that a sample is a mere fraction of the entire population. The study is located in the qualitative research design which deals with small samples. According to Welman (2005:55), to generate in-depth data from participants' perspectives, the sample should be very small. In addition, the organization of data collection is more manageable through the use of a small sample as this saves time (Magwa & Magwa, 2015:63). The sample was selected from two state universities out of nine in the country. Participants were selected basing on their relevance to the questions asked.

The sample size should be optimum, i.e., one which fulfils the requirements of efficiency, representativeness and reliability (Kothari & Garg, 2014:53). The target population comprised bachelor of education students at the two institutions. A sample was chosen because gathering data on a sample is less time consuming (Bless, Higson-Smith & Sithole, 2013:163).



**Figure 3.1: Sample Representative of Research Participants**

The figure above shows that 5 lecturers were involved in the study. Three lecturers were from the GZU whilst 2 were from the MSU. Ten pre-service students were the

research participants. Five of them were from GZU and 5 from GZU. Of the 2 FGDs one was from each institution.

### **3.5.2 Sampling procedure**

Sampling is a technical accounting device to rationalize the collection of information, to choose an appropriate way in which to restrict the set objects, persons or events from which the actual information will be drawn (Bless, Higson- Smith & Sithole, 2013:161). It is the selection of research participants from an entire population and involves decisions about which people, settings, events, behaviours and or social process to observe (Blanche, Durrheim & Painter, 2006:49). It is also a means to learn something about a large group without having to study every member of the group (Adler & Clark 2011: 101). Purposive sampling was used in this study. Purposive sampling is a non-probability sampling in which the units to be observed are selected on the basis of the researcher's judgment about which ones will be the most useful or representative

(Babbie 2011 :207 ).

Purposive sampling is applied to those situations where the researcher already knows something about the specific people or events and deliberately selects ones because they are seen as instances that are likely to produce most valuable data ( Denscombe 2007 : 17). Participants in a study are deliberately chosen because of their suitability in advancing the purpose of the study. Rule and Vaughn (2011:78) acknowledge that it is not constructive to consult everyone when carrying out research. People are selected because of their relevant knowledge, interest and experience in relation to the case under study. In support of the above view, May (2004:220) notes that a selection is made according to known characteristics. This guided the researcher in selecting participants to elicit relevant information from the students and lecturers regarding the usefulness of cooperative learning. Since the intention was to yield richest data from participants, the technique employed in this research study was purposive sampling, also called judgemental sampling. Purposive sampling, as defined by Cohen , Manion and Morrison (2007:24), is used to select participants who are believed by the researcher to be able to yield the richest data related to the study. In purposive

sampling the researcher selects elements based on his or her judgement of what the elements will facilitate an investigation (Adler & Clark, 2011:101).

Purposive sampling was opted for because the concern is to acquire in-depth information from those who are in a position to give it (Cohen et al., 2011:157). Lecturers and the pre- service students have been selected on the basis that they provided the ideal information to the researcher. They were chosen on the assumption that they are conversant on how CL is being used in their institutions of learning.

### **3.6 Pilot study**

A pilot study represents a cornerstone of a good research (Hazzi & Maldaoni 2015: 53). Pilot study can be defined as a small study to test research protocols, data collection instruments, sample recruitment strategies and other research techniques in preparation for a large study. Furthermore, pilot study can be defined as a ‘small study to test research protocols, data collection instruments, sample recruitment strategies, and other research techniques in preparation for a larger study’. Hennick, Huttler and Bailey (2011:120) explain that pilot testing should be done with people who share the same characteristics as the actual participants but who live outside the study community. This should be done with a small sample of volunteers before they implement data collection. Pilot study can be used to explore some logistical issues before embarking on the main study, which pilot study results can inform feasibility and identify modifications needed in the main study (Hazzi & Maldaoni, 2015:53). This allows the researcher to determine whether the instruments match the level of understanding of the participants. Principally, the significance of pilot testing lies in improving the proficiency and quality of the main study. If there is an irregularity the researcher can then make some improvements before the instruments are administered in the actual study. Interviews were pilot tested to two lecturers. Resnick (2015:S1) avers that a pilot study allows the researchers to gain an understanding of the challenges that may be encountered related to data collection such as the amount of time required, participants’ ability to understand and answer the questions posed and/or the ability of evaluators to reliably observe participants to complete more objective measures. The researcher pilot tested the instruments resulting in identifying questions

that sought for similar responses. As a result, one of the questions was collapsed. The pilot study was done at the Great Zimbabwe University with the pre- services part two students. The students who were part of the pilot testing were not considered during the data collection of the actual study.

### **3.7 Data analysis procedure**

Questionnaires, interviews and FGDs were used in the study. The questionnaires were administered face to face by the researcher. Data from the interviews and FGDs were audio recorded. This was done so that the researcher did not miss out on any information given by the respondents during the interviews. The fact that the human mind cannot remember all the information forced the researcher to record interviews so that salient information was not overlooked during data analysis. Data was later on transcribed. Data coding involves carefully reading, considering which codes are discussed in that section and then labelling the section with relevant codes (Hennick et al., 2011:178). It involves interpretation of the raw data collected from the respondents.

The research used thematic analysis. It emphasises rich description and organisation of data. The raw data is developed into themes by identifying important events and encoding them prior to interpretation (Saldana, 2009:181). When analysing there is thus a need for the researcher to link the data with the related literature review. In thematic analysis, the task of the researcher is to identify a limited number of themes which adequately reflect their textual data (Creswell, 2007). During data analysis, the researcher linked data with the related literature review. Nvivo computational analysis was also used to analyse the data. It was employed to obtain rigor in dealing with data collected (Hamed and Alabri 2013 : 182). Coding is a way of dividing data into manageable segment as well as allowing quick access to the relevant data when needed. Before a qualitative researcher starts using Nvivo software he or she has to obtain thorough knowledge and skills of applying the software resulting in pursuing some workshops that emphasise the application and techniques (Hamed and Alabri 2013 : 182). As a result the researcher had some hard times in trying to master the coding and creating the word art and word tree. Syarifuddin, Abduh and Rosmaladewi (



2017 : 62 ) pointed out that Nvivo is time consuming in learning to use the application and expensive for individual use. It was costly on the part of the research to purchase the Nvivo which needed the foreign currency. The other disadvantage is the software expires and that it can only be used on the machine where one has downloaded the software.

### **3.8 Ethical considerations**

Researchers are expected to conduct their research in an ethical manner (Denscombe, 2010:59). For Jha (2014:51) ethics are a set of moral and social standards that include both prohibitions against and prescriptions for specific kinds of behaviour in research. The researcher considered some ethics so that authentic data was sourced to promote credibility of the study. The researcher remained focused in order to accomplish a successful and significant research. A critical ethical principle is honest reporting which is the responsibility to produce accurate data (Jha, 2014:51). Precise data were solicited as the study progressed. Researchers need to gain approval from a research ethics committee before they can embark on their research (Denscombe, 2010:61). To conduct a sound and ethical research, the researcher applied for clearance from the Vice Chancellors of Great Zimbabwe and Midlands State universities. Further permission was sought from the Ministry of Higher and Tertiary Education, Science and Technology Development in Harare before the commencement of the study.

The researcher respected the voluntariness ethic during the study. This is where subjects must agree voluntarily to participate, that is, without physical or psychological coercion (Denzin & Lincoln, 2011:65). The respondents exercise the unrestricted power to make a choice devoid of duress or other forms of coercion. In concurrence, Denscombe (2010:332) points out that people should not be forced or coerced into helping with research. Subjects must agree voluntarily to participate, i.e., without physical or psychological coercion (Denzin & Lincoln 2011:4). In concurrence, Adler and Clark (2011:46) state that it requires participants to voluntarily enter into a research project: that they have not been coerced or duped into participation. The researcher made it clear to the participants that they were supposed to be part of the research

willingly. This right to exercise choice was present throughout the entire research process. The participants were told that they were at liberty to withdraw if they wished to do so at any time, as advised by Gwirayi (2012: 4). This is because researchers should recognise the right of all participants to withdraw from the research for any or no reason (BERA 2018 :18). In concurrence , Bless, Higson- Smith and Sithole (2013:33) assert that, “at any time in the conduct of the of a research project, if a participant decides for any reason that he or she would like to stop participation, this wish should be respected.”

Denscombe (2010:331) warns that researchers must let people know that they are researchers and that they intend to collect data for the purpose of an investigation into a particular topic. The researcher explained fully to the participants that she wanted to explore the use of CL in pre–service teacher education. Furthermore, the researcher truthfully explained about the nature of her investigation and the role of the participants in the study.

The researcher also considered the anonymity ethic. The respondents were asked to use pseudonyms if they so wished so that the researcher would not identify them by name. O’Leary (2004:151) notes that one has to ensure that no-one else has access to the collected data. Students may give sensitive data which may prompt their lecturers to try to get back at them once they are aware that they are the ones who furnished the researcher with that data. Confidentiality has also been respected in this study.

### **3.9 Summary**

The chapter gave a comprehensive presentation of the qualitative research design. The models or frameworks for observing and understanding the research problem were the grounded theory and the interpretivist paradigm. The significance and relevance of the population, sample and sampling procedures were justified. The research instruments used were the FGDs, interviews and questions. They were administered to ten per-service students and five lecturers. Nvivo and thematic analysis were the data analysis procedures adopted. The successive chapter focuses on data presentation and analysis.

## **CHAPTER 4**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.1 Introduction**

The preceding chapter presented the research methodology that guided the researcher in data collection. To this effect, the data was successfully collected from research participants in line with the corresponding methodological framework. The data collection was carried out using three methods, namely the questionnaires for the students, interviews with both the lecturers and students, along with the focus group discussions with the students. The collected data were ultimately transcribed before being analysed. The focus of this chapter is to present, analyse and discuss the data that were collected through the interviews, focus group discussions and questionnaires. The research participants were five lecturers and ten students. Vignettes and computational Nvivo were used to analyse the data collected from research participants. The data analysis is based on critically investigating the use of CL strategies in pre-service secondary school teacher education at two state universities in Zimbabwe. It addressed the following research questions:

- 1) Which are the CL strategies used by teacher educators in teaching and learning in pre-service secondary school teacher education at the MSU and GZU?
- 2) How can current learning strategies in pre-service secondary school teacher education at MSU and GZU be supported more effectively through cooperative learning?
- 3) Why are CL strategies instructionally important to pre- service secondary school teacher education at MSU and GZU?
- 4) What can be done to improve CL strategies in pre-service secondary school teacher education at MSU and GZU?

To help illustrate some of the study findings, the researcher presents the thematic maps, hierarchical charts, cluster analysis charts, word trees, word clouds, along with the eventual concept maps that provide a richer insight into the key empirical findings unique to this research (Silverman, 2018). The structure of the chapter is in 8 parts. First, the demographic information of participants is presented in 4.2. Each of the

subsequent sections separately addresses one of the research questions in line with the thematic coding process mentioned in the preceding paragraph.

## **4.2 Source evaluation and demographic analysis**

As explained in the methodology section, three data collection approaches were adopted for this study, namely focus group discussions (FGDs), interviews and questionnaires for triangulation as it is a good way of counteracting the weaknesses in data collection methods used (Dawson, 2002:20). Triangulation which is the combination of several research methods in the study of the same phenomenon (Fischer 2006, 194 was used). The researcher triangulated the three research methods to allow for comparison and integration of evidence from multiple methods of data collection and multiple analytic perspectives (Tavakoli, 2012:674). The merit of triangulation is that, if one source of data is ambiguous, it can be clarified by the other and, when all three sources of data demonstrate the same emergent form of structure, the findings are more persuasive (Fischer, 2006:194).

This section shall present the key demographic attributes among participants. As a means to ensure compliance with the ethical guidelines prescribed in the methodology, pseudonyms are employed using a unique numerical hierarchical name for each of the three classes of sources, that is, Questionnaire X, Interview X and FGD X, where X shall be the respective unique number (FGD 1, FGD 2; Interview 1, Interview 2, Interview 3, Interview 4, Interview 5; Questionnaires 1-10).

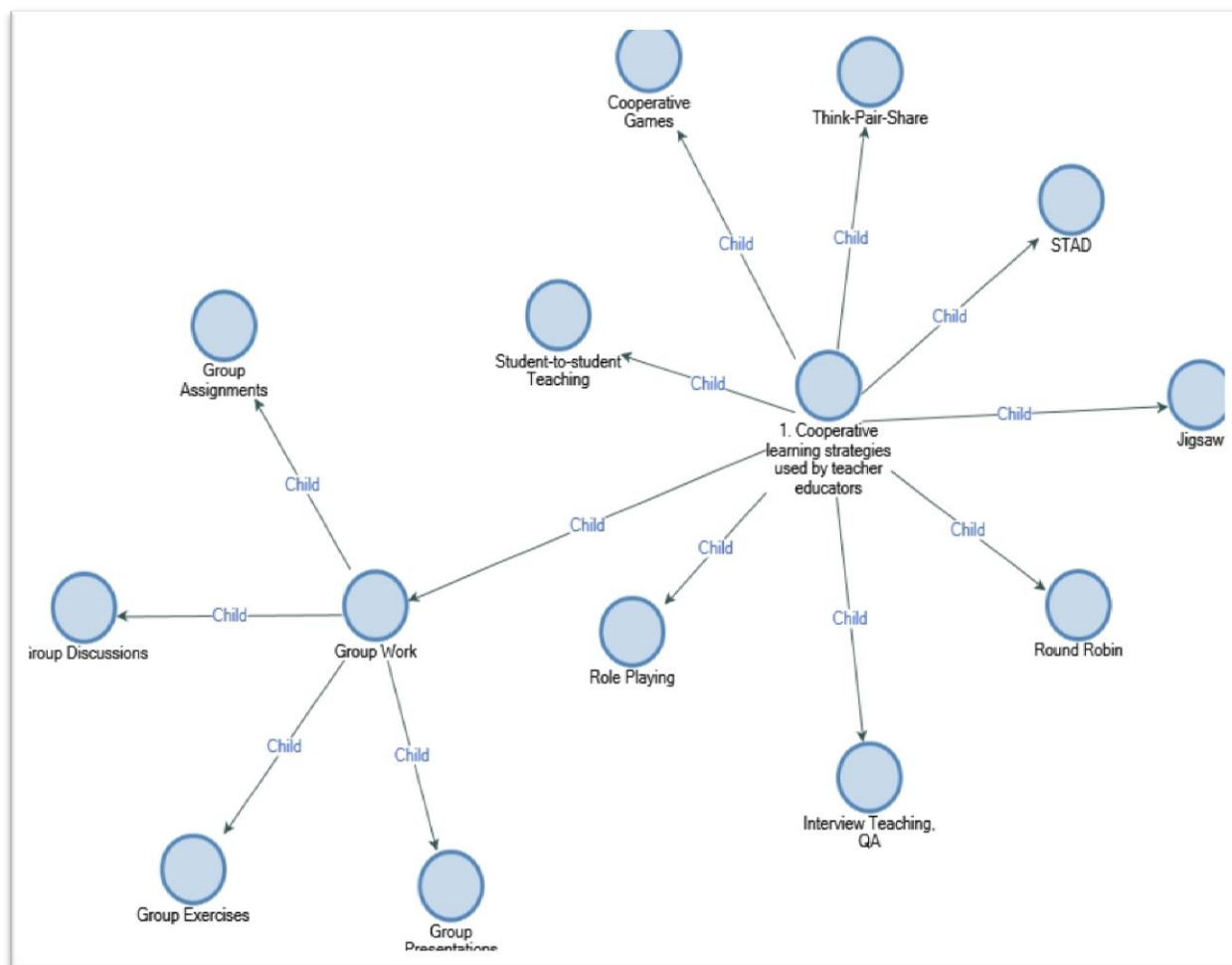
### **4.2.1 Demographic analysis**

Creswell (2014) argues that one of the pivotal approaches to evaluate trustworthiness of qualitative treatises is by considering the demographic distribution of research participants. This study broadly evolved around CL strategies in pre-service secondary school teacher education. To this effect, there were two major classifications of participants, and these were lectures and students. The data collected ultimately comprised two focus group discussions, five interviews, along with ten questionnaires. The FGDs were composed of three male students and seven female students. The interviews were carried out with one male and four female students. In addition, questionnaires were administered to ten students. In this study, FGD1 had four female



From a broader context, it is evident that the key aspect of cooperative learning strategies used revolved around the group concept, more particularly, group work, group presentations and, inter alia, group assignments. This nexus between cooperative learning and the group concept is supported in the literature (Hossain and Tarmizi, 2013; Yusmanto, Soetjipto and Djatmika, 2017). Nevertheless, the key deficiency that was characteristic in the feedback by the participants was that the focus on the cooperative learning strategies was highly generalized ascribing the latter to merely group work, at the expense of the specific strategies used such as the jigsaw, numbered heads together, round robin, and, inter alia, STAD, all of which, inevitably entail the group phenomenon, being all group activities (Pedersen and Digby, 2014). The latter challenge, as evidenced in the word tree in Figure 4.4 below, which presents the overlapping tendencies of the oblivious generalisation of responses towards the group work theme. Aspects relating to the specific strategies for cooperative learning such as the think-pair-share, roundtable are evident from the word tree below, yet, were brought out mainly as group work.

In light of the prominence of group activities, further axial coding was done to the original open codes and ascribed group assignments, group discussions, group exercises as well as group presentations as being mere subsets of group work (Taqi and Al-Nouh, 2014:52). The resultant themes that were extracted from the study findings are illustrated in the thematic map in Figure 4.4 below.



**Figure 4.2: Thematic Map – CL Strategies Used.**

Source: Primary data (Nvivo output)

From the findings, group work accounted for close to half of the responses on the strategies used to execute and implement CL by teacher educators in pre-service secondary school teacher education. The second prominent strategy emerged as being the think-pair-share strategy, followed by the round robin and cooperative games.

#### **4.3.1 Group work**

Basing on the arguments posed above, it is evident that most participants broadly and unwittingly generalized the strategies being used by teacher educators in pre-service secondary school teacher education as being largely and/or invariably group work. While correct in some way on the role that group work play towards CL, the feedback seemed rather over-generalised and over-simplified. This argument is best supported

by the participant in Questionnaire 4, who clearly differentiates the use of group work as a CL strategy:

#### **Questionnaire (04)**

*The lecturers use group work not necessarily CL strategies. These are formed at times by clicks or put together by the lecturer. Some of the qualities and encounters of these groups makes the exercise not really qualify to be considered CL as comprised of about thirty people or so. Some are classified or made according to areas of majors in English or history regardless that they are about ninety-seven people who have history as their main subject of major.*

The thin line between group work as a tool or strategy was not clear from the participants' point of view. This misunderstanding can be seen from the participant INT1, who questioned:

#### **Interview (01)>**

*Uh, we have so far made use of group work. I don't know if it is... if it is one of the methods you are looking for?*

The participant was clearly not sure, although being expected to be as a lecturer. The same argument can be extended to participant INT5 who mentioned:

#### **Interview (05)>**

*The variations of CL which I use include the jigsaw, STAD and the group processing.*

The participant failed to acknowledge that strategies of CL such as the jigsaw puzzle and STAD were inseparable from group processing, but these strategies rather entail group processing. To this effect the erroneous narrative that group processing is a strategy was not uncommon among participants. The latter can as well be confirmed from the feedback by INT3 below.



**Interview (03)>**

*Now, it depends on the class. Sometimes you'll find that some classes are rather too big, and we use uh, groups; maybe six or more in a group.*

From the third interviewee, who was a lecturer, it is again clear that he generalizes the CL strategies to group work while failing to meaningfully clarify the actual strategy used behind the grouping. Nevertheless, the confusion on what CL is was not just evident among lecturers but also among students. A case in point was participant Q5 who mentioned:

**Questionnaire (05)>**

*Group work: our lecturers usually organize us (students) in small groups to work on assignment or task. Our lecturer uses both the ability grouping, where we are divided into small groups depending on our abilities. More so our lectures use heterogeneous grouping where the lecturers group mix us (students) with different learning capabilities. The group work helps students to master content, assists each other as students and allows active participation of us students.*

The student explicitly brings out the concept of heterogeneous grouping which in this case is based on ability. Nevertheless, heterogeneous or homogeneous grouping are not strategies for CL per se, rather, they are nothing more than simply grouping techniques (Huang, 2016: 1), and that can be applied to complement a specific CL strategy that would have been opted for by the lecturer. In fact, Johnson, Johnson and Holubec (2008) identify CL as the instructional use of small ad hoc groups to facilitate comprehension and accommodation. To this effect, the generalization of the strategies as mere group work could not suit the expected level of clarity sought. This is clear from other respondents such as Q6 and Q7 who also brought up that:

**Questionnaire (06)>**

*Group work; our lecturers usually organize us (students) in small Groups to work on assignments or task.*

**Questionnaire (07)>**

*Students are encouraged to work in groups to research and then present to fellow student at an appointed time*

The feedback from the above participants falls short of the expected level of awareness, especially given the fact that students were being trained to be secondary school teachers.

From the second focus group discussion, the use of group discussions as a strategy for CL was explicitly mentioned by participant Q2:

**FGD (02)>**

*And also, in some instances, the lecturer during the lecture period, he might ask you to sit in groups of about ten or twenty, for example in History. We were told to sit in groups of twenty twenty, and then discuss on a certain topic, then present it to the whole group. I think that's CL, since in our – in our class we are around two hundred. So, ten, I think it's a small group. That's CL.*

**Questionnaire (02)>**

*Teacher educators in pre-service secondary school teacher education use group discussions in their teaching.*

Again, the argument that arises from the above narrative is that, while we can agree that group discussions are at the core of CL, just merely citing group discussions is not a specific strategy that can be related to the strategies that are acknowledged by many education scholars such as Gambari and Yusuf (2014: 3) who explicitly mention group-work centred CL strategies such as learning together (LT), group investigation (GI),

jigsaw procedure (JP), student teams achievement divisions (STAD); team assisted instruction/individualization (TAI), and cooperative integrated reading and composition (CIRC).

The same argument is posed for participants who cited group assignments as CL strategies. This is expressed by FGD2 participants Q2 and Q3.

#### **FGD (02)>**

*Mmm-hmm. And group assignments, those write-ups. They... Okay, I'm saying like, those group assignments and those write-ups. Other than just presentations. They are part of the CL process.*

#### **Questionnaire (02)>**

*Yes, and this is illustrated when they give students group assignments.*

#### **Questionnaire (03)>**

*When the teachers are divided into groups they are given a topic to go and research. The topic will be on the course outline. They are asked to either write a presentation or an assignment.*

Precisely, the above participants failed to appreciate the difference between role of group work as the medium or tool for CL and the specific strategies, a clear indication of the poor understanding of the concept of CL. They failed to understand that whether the delivery was through group assignments or group presentations, these were not CL strategies. Questionnaire 03 erroneously indicated that teachers are divided into groups instead of mentioning students. The perceived role of group presentations as a strategy for CL is evident. However, what is more worrisome is the confident response by Q7 who expresses the sentiment that:

### **Questionnaire (07)>**

*Teacher educators in pre-service secondary school teacher education use presentations as major CL strategies.*

From the above sentiment, what is key to note is the ‘*major*’ aspect. This presents a case that demands attention because, if group presentations are seemingly the main CL strategies used, then potentially fears are that CL may not have been implemented appropriately. Brown and Thomas (2017: 37) present a similar case that, for group work to be successful, there needs to be strategies. Nevertheless, CL entails group work, and putting CL strategies into context cannot, and should not bring group work to the fore as a unique CL strategy. Unfortunately, this misunderstanding was evident from both students and lecturers as validated by participants’ remarks presented above. To further raise the levels of concern by the researcher, a lecturer, INT1, actually ended up qualifying such group work as the ‘only’ strategies:

### **Interview (01)>**

*Uh, we have so far made use of group work. I don’t know if it is... if it is one of the methods you are looking for?*

The above clearly indicates that even some lecturers cannot clearly distinguish group work from CL strategies. The interviewee further highlighted that:

*We are also looking – We have also looked at presentation work, where students would gather in groups to work on a given task, present to the class. Basically, those are the ones I have used so far.*

This evidently reflected the confusion which some of the lecturers have on the CL learning strategies.

From both focus group discussions, it emerged that participants did not comprehend CL as illustrated by remarks below:

#### **FGD (01)>**

*Sometimes they use group presentations in forms of assignments where the students are grouped in, like, groups of ten or five depending on the number, and they are given a topic to work on. Then they will present to the class or submit as a write-up to the lecturer.*

*Umm, I think lecturers they use the CL that, they give us, like, a presentation and they give us a task like, 'I want this – I want you to do this, and you are going to give it... You are going to submit it like, tomorrow'. Then, as a group, he encourages us as a group to cooperate or to give different points of views, so that we come out with one thing.*

From the second focus group discussion, a participant echoed similar views:

#### **FGD (02)>**

*They use presentations as a way of CL, where students they come together, they give their ideas and they come up with one product which they will present before people. So, I think, yeah, they use it*

Effectively, these statements all but presents a serious case on the extent of awareness of the concept of CL and its specifics as the responses by both lecturers and students seemed to be shallow and superficial, lacking the high level of specificity and clarity with respect to the actual strategies of CL as prescribed in the literature.

#### **4.3.2 Interview teaching**

Beyond group work, which the majority of participants incorrectly alluded to as the primary CL strategy, an interesting strategy emerged from participant Q5 who expressed that:

#### **Questionnaire (05)>**

*Interview as a cooperative teaching method is also applied to teaching at MSU. I have noted that there is a relationship between interview teaching and discussion methodology therefore there is active participation of students and lecturers. That is why I call it CL strategies. **The students we are expected to gather information from other people and report to the lecturer.** The lecturer and students pose the views and seek clarification. I noted the most lecturers are total committed to the plea, of total involvement of students in learning and teaching and learning process.*

While the description of the process is not quite clear, it has close attributes to the three-step interview CL strategy in that the view describes interviews among students, then the final interview with the lecturer as explained by Alrayah (2018: 26). Nevertheless, the respondent was not so clear in explaining how the so-called 'interview teaching' works, though technically, the universally acknowledged CL strategy embracing interviews is the three-step interview strategy. Unfortunately, the fact that this was brought up by a single participant among all other participants tends to signal either the high ignorance levels by some lecturers and students to the existence of this strategy, or otherwise the non-preferential use of the strategy by some lecturers.

#### **4.3.3 Jigsaw**

The third form of CL strategy that emerged from the study was the jigsaw. The most concise narration of the process involved was provided by participant Q10 who remarked that:

#### **Questionnaire (10)>**

*Jigsaw; students are placed into home groups and expert groups and are each assigned a different topic within the same general topic. Students work on researching their topics with others who have the same topic (their expert group) and then return to their home group to teach them*

*about their topic. Together, all the pieces come together to form a complete product.*

This strategy was also mentioned by INT5, previously cited, who also stated that:

#### **Interview (05)>**

*The variations of CL which I use include the jigsaw, STAD and the group processing.*

Although being a very prominent CL strategy, the fact that this was explicitly mentioned by only two participants is a possible indication of the poor knowledge and/or use by lecturers.

#### **4.3.4 Cooperative games**

The fourth strategy for CL was identified as the use of games as illustrated in Figure 4.2.



**Figure 4.3: Word Tree – Cooperative Games.**

Source: Primary data (Nvivo output)

This strategy was brought out by two key participants. The first was INT5, who cited that groups are formed to compete against each other.

#### **Interview (05)>**

*In other cases, I design the tasks in such a way that the teams would be competing against each other.*

Another perspective was put forth by participant Q2 who cited the use of games and competition-related activities such as debates, expressing that:

#### **Questionnaire (02)>**

*More so, lecturers use games to allow students to make decisions based on creative thinking, communication and collaboration. ...for example, in introduction of Zimbabwean culture and heritage students are involved in participating traditional games in small groups like mbede and Jerusalem.*

*Cooperative games are another CL strategy used by teacher educators in their teaching. Students will be participating games in small groups. These games include traditional dances, drama etc. Teacher educators use debates as CL. They engage students into small groups that will participate in debate and this will facilitate critical thinking.*

Cooperative games, however, were not so prominent among participants and, as such, one potential conclusion that could be derived from this might be the infrequent use of this CL strategy by lecturers.

#### **4.3.5 Round table**

The fifth CL strategy that emerged from the findings was the round table and the round robin. This was mentioned by a single participant, INT, who remarked:

#### **Interview (02)>**

*The round table one*



*And on the round table one, I usually give that as homework, where I divide students into groups, and each group is given a topic, and then they go deliberate during my absence.*

*And that is why, to minimise on the time that is consumed, the round table ones – it's outside the lecture and then they come to make a presentation. It is a way of counteracting that aspect of what, the methodology being time consuming.*

Further, the key concern that remained was on the relative levels of awareness and use by lecturers given the fact that this was only brought out by one lecturer. Despite being the only participant to mention the round table, it should be noted that comparing with the narratives by Alrayah (2018: 26) and Adelina (2017:17), the explanation provided by the lecturer falls short of the actual aspects involved in the implementation of the round table. Furthermore, the key concern that remains is the relative levels of awareness and use by instructors given the fact that this was only brought out by one lecturer, and none by students.

#### **4.3.6 Round robin**

To complement the round table, was the round robin. The major problem, however, was that this was brought out by a single participant, who was a student, and the account provided falls short of the clues as to whether the lecturers actually use the round robin as a CL strategy or not. Furthermore, the participant, Q10, simply provides a technical narrative of how the round robin works, describing thus:

#### **Questionnaire (10)**

*Round robin; students are sitting with groups (3-4 students), and the teacher asks them a question or gives them a problem to solve. The questions or problems are deliberating chosen, in that there are multiple ways to solve the problem and multiple points for discussion. Students in their groups take turn answer and sharing their opinions with each other, working together to come up with an answer that they all agree on.*

*Example: A teacher displays a picture of Skinnerian box for students to observe on how behaviour can be reinforced. One student is the recorder and writes all of the group's answers on a piece of paper. This strategy continues until the teacher stops the activity or until a group runs out of answers.*

From the basic explanation provided, the researcher did acknowledge that at least the sign of awareness to the presence of the round robin strategy was there. However, the fact that only one participant brought it out, and the participant fails to tie the account to the past or present is indicative of possible signs of poor awareness and/or use by lecturers.

#### **4.3.7 Student teams-achievement divisions (STAD)**

The STAD approach was brought out as the seventh CL strategy by participants. Nevertheless, though being mentioned by just one lecturer, the justification provided was not comprehensive as noted below:

##### **Interview (05)>**

*The variations of CL which I use include the jigsaw, STAD and the group processing.*

As with the preceding CL strategies, the students and lecturers demonstrated poor levels of implementation of this strategy.

#### **4.3.8 Think-pair-share**

Despite the relatively poor signs of awareness and/or implementation of most of the possible strategies of CL, one of the leading strategies evident from the content analysis was the think-pair-share strategy. It is remarkable that this was mentioned in three of the five interviews carried out, along with other three accounts by students. Participant INT2, for example, expressed that:

##### **Interview (02)>**

*The pair one... I can ask students to be in pairs, where each pair is given a job card, where they discuss and one will give feedback. And at times I*

*want both of them to participate, so they have to share the topic, and then they divide themselves such that the first presenter will give feedback and the other one will take up and then give a conclusion.*

The interviewee INT3 tended to preferentially use the think-pair-share strategy for small classes than for large classes, arguing that:

**Interview (03)>**

*But if the classes are a bit small, we tend to use umm, pair work. They can work in pairs or in threes. Otherwise it depends on the class...*

On the other hand, the participant INT4 recalled using the strategy every time:

**Interview (04)>**

*I normally use pair activity almost every lecture...and sometimes I assign pair activity when I've taught a concept, and then I ask for its application – practical application in the classroom. I normally assign them to work in groups, and sometimes in pairs.*

With respect to students, the best account was provided by participant Q8 who mentioned that:

**Questionnaire (08)>**

*Teacher educators use informal learning groups where a class is broken into small fragments and assigned a group topic or problem to handle. They use think- pair- share also called turn and talk whereby a lecturer poses a question to the group or class and each student has a minute or two to think about the question and then turn and discuss with someone next to them and then share with the whole class.*

While the pairing strategy was also pointed out by participant Q10, the account seemed to provide a definitional narrative, and not the practical narrative as expressed below:

#### **Questionnaire (10)>**

*Think-Pair-Share; Also called turn & talk. Teacher poses a question to the group, and each student has a minute or two to think about the question. Then, they turn and discuss with someone sitting next to them, and then share with the whole class. Example: A teacher could pose the question, 'What is educational psychology?' students then think individually about the question. After a couple minutes of thought the students then turn to a shoulder partner and discuss their thoughts with each other. The teacher then facilitates a whole class discussion.*

As a result, all the cited accounts above tend to validate that, save for the controversial group work, the next best strategy for CL that was extracted from the findings, both in terms of popularity and use, was the think-pair-share strategy.

#### **4.3.9 Role playing**

The last strategy observed from the study was role playing. As put forth by Q5:

#### **Questionnaire (05)>**

*Role playing: - is used at MSU and several advantages to both the student and the lecturers. Lecturers and students are active participants.*

However, only one participant brought this strategy forward, and in that respect, its frequency of use might be questioned.

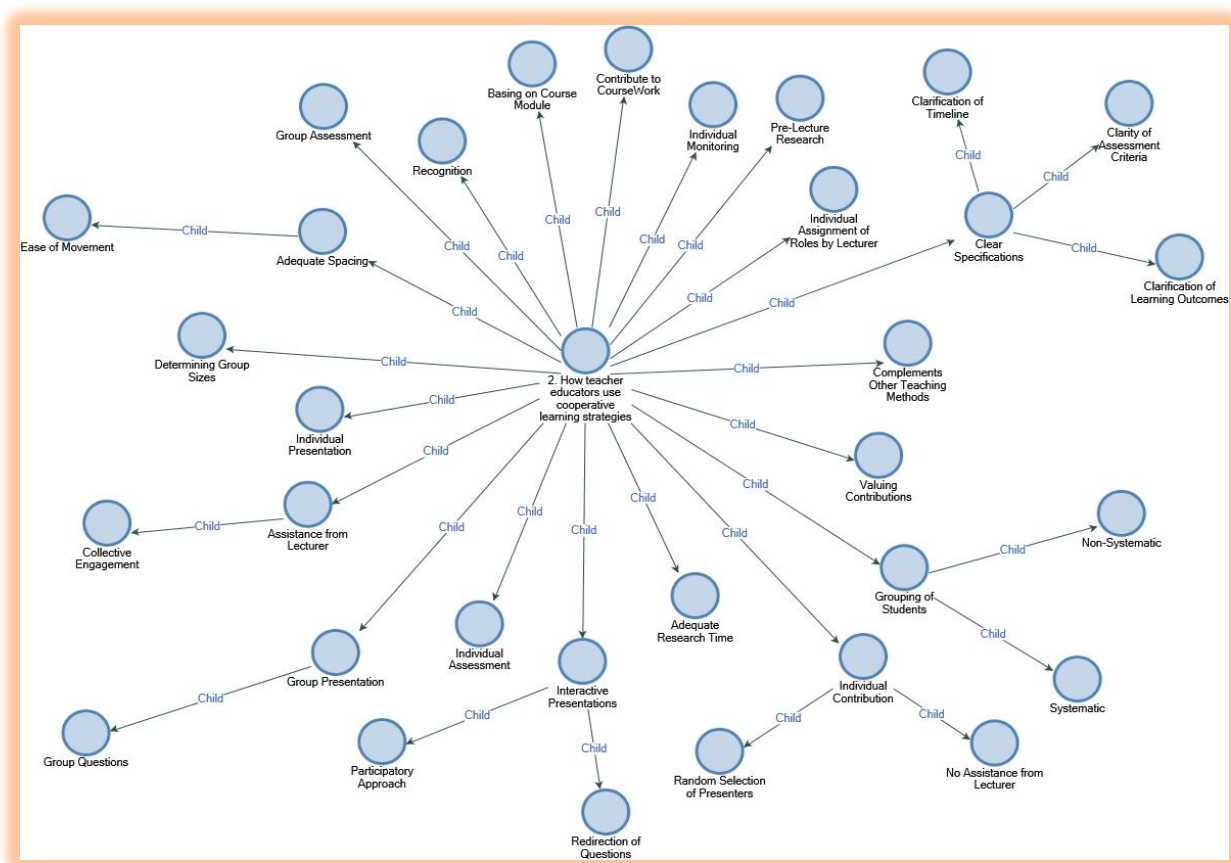
#### **4.4 Research question 2: How CL strategies are used by teacher educators**

*2) How do teacher educators use CL strategies in pre-service secondary school teacher education?*

The second research question sought to address how teacher educators at MSU and GZU use co-operative learning strategies in pre-service secondary school teacher education. As with the first research question, all participants were asked to narrate their perspectives in this regard. Many themes on the use of CL strategies emerged

from the findings, and based on the open nodes, these included: adequate research time, adequate spacing, assistance from lecturer, basing on course module, clarification of learning outcomes, clarification of timeline, clarity of assessment criteria, clarity of timeline, collective engagement, complementing other teaching methods, contribution to coursework, determining group sizes, ease of movement, group assessment, group presentation, group questions, grouping of students, individual assessment, individual assignment of roles by lecturer, individual contribution, individual monitoring, individual presentation, interactive presentations, pre-lecture research, random selection of presenters, recognition, redirection of questions, valuing contributions.

These are presented in the thematic map below.



**Figure 4.4: Thematic Map – Open Codes - CL Strategy Use Characteristics.**

Source: Primary data (Nvivo output)

It should be noted that the extraction of the above themes using the grounded theory agreed with the process prescribed by Johnson, Johnson and Smith (2006: 27),). According to Johnson, et.al (2006: 27), the key processes for the successful implementation of CL include pre-instructional planning, introducing the activity to students, monitoring and intervention, assessing and processing. The eventual themes that emerged in this study, albeit more than those prescribed in the literature, exhibited a high degree of coherence. The theme *clarification of learning outcomes* could be related to *introducing the activity to students*. On the other hand, the theme *monitoring and intervention* in the framework by Johnson, et. al. (2006: 27), was from this study presented as two separate themes. The theme *assessing* was homologous to *evaluation*. In this light, the original terms by Johnson, et. al (2006: 27) were retained in parentheses in the bullet lists above. The subsequent thematic map is presented below.

#### **4.4.1 Focus on course outline/module/syllabi**

Benchmarking the cooperative strategy against the course outline or module was echoed in the study. This was mentioned by INT3 who expressed that:

##### **Interview (03)>**

*And sometimes they formulate their own tasks from the module content.*

Nevertheless, participant Q4 echoed a negative sentiment, arguing that some lecturers did not value CL, and gave a connotation of poor linkage with the course module mentioning:

##### **Questionnaire (04)>**

*Lecturers should value CL seriously to benefit students especially in regards to covering the knowledge base for every course within the thirty-six hours assigned for every module at GZU.*

This deficiency was further echoed by Q5 who averred that lecturers ought to:

##### **Questionnaire (05)>**

*...allow the student teachers to practice the skill in the same teaching content to that of the lecturer.*

While the focus on the course outline or module was noted by some participants, others expressed dismay that it was not in practice.

#### 4.2.2 Complementing other teaching methods

3) *How can current learning strategies in pre-service secondary school teacher education be supported more effectively through CL?*

One of the lecturers indicated that there is need to complement CL with other teaching methods. The views were that:

##### **Interview (03)**

*It's used in conjunction with other, with other methods. Because normally on its own I have noticed that with pre-service students you can't just start by placing them into groups. You have to have times of teaching, moments of teaching. And after having taught a topic, maybe for half the contact session, then I sometimes break my students into groups and they engage in discussions on given tasks. Normally I prepare the tasks.*

Participatory approach was also viewed to complement CL. One participant, INT 4, noted that:

##### **Interview (04)**

*No, I don't want to be doing all the work for them, and I don't want to be teaching. I want a **participatory approach** where everybody is involved. That's why I always do this. And sometimes when I have taught a theory, for example, and I want the educational implications, I don't supply them with the educational implications.*

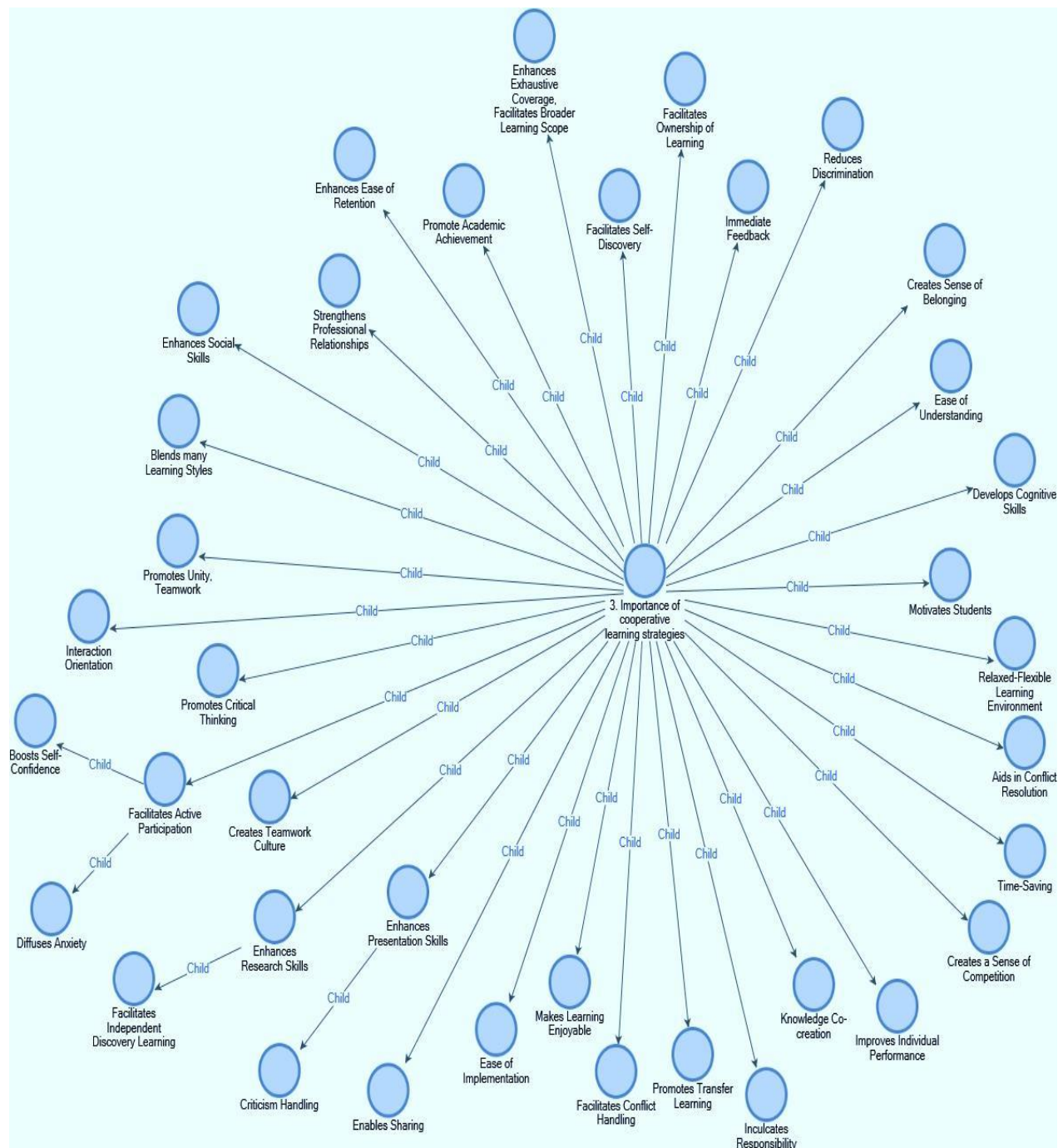
*They should come from the students, and this is where I ask them to work in pairs, and they list the implications, and then during report-back I encourage them to take note of what their colleagues are saying, and then, sort of a shared thing, you know? (Laughs) Rather than me talking for the whole hour and telling them, actually telling them, 'These are the educational implications'. I don't find it working.*

#### **4.5 Research question 3: Importance of CL strategies**

##### ***4.5. 1 Why are CL strategies instructionally important to pre- service secondary school teacher education?***

The fourth research question sought to report on the importance of CL strategies to teacher educators in pre-service secondary school teacher education at MSU and GZU use co-operative learning strategies. The subsequent themes extracted from the study outcomes are illustrated in the thematic map in Figure 4.4 below.





**Figure 4.4: Thematic Map – Open Codes –Importance of CL Strategies**

Source: Primary data (Nvivo output)

Findings revealed that participants believed CL is significant because it aids in conflict resolution.

### **Questionnaire (05)**

*Learn to agree to disagree.*

### **FGD (02)**

*And also, with cooperative learning, through working in group's right, we are able to solve our conflicts. Because we cannot work together if we are enemies, right? So, we have to befriend each other so that we can work cooperatively. So, I think it's also good, because it... it solves all the conflicts and the differences that we have, so that we can come up with something that is solid as a group. So, I think it's good.*

In addition, CL has been noted to blend many learning styles. CL has also been applauded for blending students from different languages.

### **FGD (01)**

*To add on that, I think we benefit a lot 'cause we use different languages. Though we might be speaking the same language, but then our use of diction is different from the lecturers, cause due maybe to the level of education attained. We're still on a lower level than our lecturers. So, some of the English used by the lecturers, we don't understand it. And it takes time to grasp concepts. But then when we do cooperative learning, right, it's easy cause we're all using the same... the same English we're used to. And we might use our language like slang or our own language. Then makes it easier for us to grasp the concept and all.*

CL was distinguished in ensuring that students with individual differences could work harmoniously. Students proved that they can learn better as they learn from their peers.

## FGD (02)

*And also the other aspect is, as for me, I'm an oral learner. As in, I'm an audio learner. I don't learn through visuals and stuff. I need someone to explain something for me. If the teacher fails to explain – cause in some instances the lecturer may just send the notes through the email, or give us a hard copy of the notes, right? But then if I am involved in a group, if I become part of the group, someone is going to... It's obvious; someone is going to explain some of the aspects to me. Then I benefit. So, I think they are helpful to us.*

*Umm, to add. Me as a field-dependent learner, I can rely on my peers. I can understand better facts as they are explained by my peers.*

*Sometimes there are things like even the language that can be – that cannot be used on the lecturer. Like some of the things that you can even – you cannot ask the lecturer that may be helping you to understand whatever the concept you will be talking about. So, like, when I am talking to Knowledge, there are some grey areas that I may fail to tell you, but I will be able to tell to Knowledge because he is a peer, and he is someone who is in the realm of my... Like, I can easily, umm, say anything with any language so that we get to the end with the problem that we will be facing.*

*And another aspect is on the issue of anxiety. When I'm working with my peers I can feel comfortable. Than when the lecturer is asking me questions, sometimes I'll be shivering.*

*[Participants laugh]*

*So, I think these cooperative...*

From the above narratives, it is evident that students find it worthwhile to discuss with their colleagues. One of the students exposed that she finds other students more approachable compared to their lecturers. Further deliberations indicated that anxiety is inhibited as students work as a team.

CL has been commended for creating a sense of belonging amongst learners. This has been supported by the following remarks of one participant:

**FGD (01)>**

*Ok, umm, cooperative learning is also... umm, it makes me feel, like, sense of belonging. Like, identified. Because if I... I can feel belonging to a certain group; I can easily explain what I feel or what views concerning the concept which is being asked. Also, cooperative learning – the way, if you are in groups, it's easy for me to ask even questions. Than if I am asked by the lecturer. I feel free, I just feel belonging, if I... if it's cooperative learning.*

In addition, FGD2 also highlighted that:

**FGD (02)**

*As for me, I can feel love and belongingness. I can feel that I am recognised in the classroom or in a lecture room or elsewhere.*

One of the lecturers also supported the students' views when she pointed out that:

**Interview (05)**

*Through cooperative learning the social belongingness needs as claimed by Maslow in his need theory are satisfied.*

Apart from the feeling of belonging, one of the lecturers explained that CL stifles individualism. The participant suggested that:

**Interview (01)**

*Then there is no individualism. So, cooperative learning does not encourage individualism. It encourages the African concept of ubuntu, where there is communalism, interdependence, where people depend on one another, right?*

*Those African ethos are imparted through cooperative learning. I don't know if I have answered you, Ma'am?*

Findings also indicated that CL creates a culture of teamwork. Suggestions from participants were that CL inspires students to work collectively to achieve a common goal. One of the lecturers elucidated that:

### **Interview (01)**

*Students will learn how to work together. And they will also develop what we call 'greater social support' amongst themselves. Even on issues outside academic work. Umm, the truth is, when students do their work together, it's very important that they motivate one another to learn.*

*Right. You are encouraged by others, and you can see the gap as far as your reading is concerned. And when students are working towards a common goal, academic work becomes an activity which is valued by the learners. So we can say, generally, it's very important, even to the teachers. Because you have less casualties...*

*It encourages students to work together, to achieve the common goal. It promotes cooperative learning, social, umm, cooperation, intellectual cooperation, academic cooperation among the students, as they work together.*

One of the students also emphasized that:

### **Questionnaire (01)**

*It breeds more active participants at the work place*

*The students will grow the habit of team work*

*It builds the habits of hard work competence and cooperation.*

CL has been valued for developing cognitive skills by both lecturers and students. One of the students cited that:

#### **Questionnaire (10)**

*Cooperative learning consistently indicates numerous positive cognitive and effective outcomes. These include enhanced academic learning, improved self-esteem, and more frequent social interaction among majority/minority members outside of the leaning group, enhanced feelings of trust and acceptance by peers and teachers/lecturers, expression of more altruistic feelings, and increased acts of cooperative behaviour in other settings.*

In concurrence, one of the students suggested that CL:

#### **Questionnaire (09)**

*- ... develops cognitive learning skills*

Participating students also observed that CL assists in demystifying the assumption that there are some lecturers who tend to favour some students. To clarify this view, INT 1 explained that:

#### **Interview (01)>**

*...amongst your learners. And learners will have better attitudes towards the school – the university this time, towards the teachers, right? There are times when students think that teachers favour some students over others, but if they are to work together, get a common mark, then there is no favouritism.*

The common mark achieved would therefore motivate students to work as a team guided by the principle that they are all going to get the same mark.

#### **4. 5. 2 Merits of using CL**

There are quite several merits pointed out for using CL. It has been explicated that CL enhances easy comprehension of issues. FGD 01 gave the following details:

##### **FGD (01)**

*Umm, to add on, umm I think cooperative learning benefits us a lot. Umm, some cases if it is an assignment, if I am tackling it on myself, I can misinterpret the question. But if you are a group, you come up with ideas then you are going to understand it easily. Umm, also, it's like when presenting, you feel... You can easily explain things in front of people because you have – you'll be having... be as a group in front of people. So that moment when you have other people, you can easily explain some of the ideas than having done it alone.*

FGD 02 also stressed that:

##### **FGD (02)**

*And also the other aspect is, as for me, I'm an oral learner. As in, I'm an audio learner. I don't learn through visuals and stuff. I need someone to explain something for me. If the teacher fails to explain – 'cause in some instances the lecturer may just send the notes through the email, or give us a hard copy of the notes, right? But then if I am involved in a group, if I become part of the group, someone is going to... It's obvious; someone is going to explain some of the aspects to me. Then I benefit. So, I think they are helpful to us.*

*Sometimes there are things like even the language that can be – that cannot be used on the lecturer. Like some of the things that you can even – you cannot ask the lecturer that may be helping you to understand whatever the concept you will be talking about. So, like, when I am talking to Knowledge, there are some grey areas that I may fail to tell you, but I will be able to tell to Knowledge because he is a peer, and he is someone who is in the realm of my... Like, I can easily, umm, say anything with any language so that we get to the end with the problem that we will be facing.*

*Sometimes she forces us to speak in English, because she'll be saying 'There are foreigners in here'. And when I'm with him, we can use our language, our home language.*

Easy comprehension of issues can also be achieved when heterogeneous grouping is done. One of the lecturers explained this view by saying that:

#### **Interview (01)**

*Because in a group, the students in a group are not homogenous. They are heterogeneous. They come from diverse backgrounds. They grasp concepts differently. And because of that, some are high achievers, some are low achievers. And against that background, it means those who are lagging behind will be helped so much by those who always excel, through group work.*

Findings established that sharing of ideas among students is necessitated by using CL in the lecture room. Three lecturers noted that:

#### **Interview (05)**

*CL strategies are instructionally significant because students thrive when they share ideas as postulated by Vygotsky in his socio cultural (expert –*



*novice paradigm). This reflects that students benefit from the assistance of the more knowledgeable others (M.K.O).*

Sharing of ideas has been observed to take a centre stage when students who are more competent assist the less capable ones. This has been noted to aid remembering of the concepts. One of the lecturers was of the view that:

#### **Interview (01)**

*...they will pass jokes here and there, which will help students to remember some of these things. Right? The learning atmosphere will be very relaxed.*

#### **Interview (03)**

*Yeah, sometimes I use our skills as psychologists, umm, sort of using MKOs. By MKOs I'm referring to More Knowledgeable Others. You might find that after having taught the students for quite some time, you'll identify certain students who could be above the rest. You make them leaders of groups so that they assist others even in my absence.*

*So, I have found it to be a very helpful idea, whereby I pick up those ones that I feel are performing above the rest, and they become my leaders in the tasks, and then they coach others, or scaffold other students.*

*Those who are somehow better talented than the others would help each other as they interact. Because we have different types of learners, you know that.*

Students also agreed with lecturers' views that CL enhances sharing of ideas. Some students articulated that CL:

#### **Questionnaire (01)**

*It enables the sharing of content on a given topic.*

*The students will be able to develop the attitude of sharing the content.*

#### **Questionnaire (02)**

*In addition, students learn to share from cooperative learning.*

Data collected also revealed that CL enhances easy retention of work covered. One of the students indicated that, once they work as a team, it would be difficult to forget one's contribution:

#### **FGD (01)**

*Umm, working... Cooperative learning, it helps that working as a group, if I am given a task to present, when I am presenting like a topic of cooperative learning, I will never forget that because I am the one who did that. So, it is helpful.*

The other student suggested that CL helps to:

#### **Questionnaire (05)**

*Eradicate memorization and allows one to think outside the box. To be able to defend one's view and accept other people's opinions.*

At the same time:

#### **Questionnaire (04)**

*It gives room for information to be processed in the long-term memory due to repetition, rehearsals.*

*It makes learning easy almost like the learning through play.*

Through CL, students can be in a position to handle criticism as noted by one participant that CL:

#### **Questionnaire (05)**

*Helps students to handle peer pressure and criticism.*

From the data collected, it emerged that CL facilitates broader learning scope. As suggested by some students:

#### **FGD (01)**

*Cooperative learning, it helps, or it improves cross-pollination of ideas. In a group, each and every one has different views, or we have different ways of explaining things or ideas. So, if we mix our ideas we come up with a well-written assignment if it is an assignment. So, that improves our academic performance.*

*And, working as a group, you will see that in a group there will be, like, some students who will be more intelligent than others. So, others will benefit from, from those who are more intelligent than them. So, that there's a sharing of different... different points. And you... someone will benefit. Even – I don't know what, like, Freud's theory, and Sister knows. She knows it much better than me, so I will listen, and I will benefit from Sister. Like, unlike from the lecturer sometimes, I won't listen.*

The diverse ideas shared among students help to broaden the learning scope as CL stimulates them to work as ants in an anthill. Students acknowledged that they manage to score higher marks through CL as diverse ideas are combined to come up with rich ideas. In response to the question that sought to find out whether they benefited from cooperative learning, students indicated that:

#### **FGD (02)**

*Yes, we do. Because as a group, everyone has different ideas, we use different sources, the way we... the way we understand the aspect might be different. So, if we bring all our minds together it helps.*

*Okay, again, academically, because these cooperative learning are done not for granted – they are done for academic purposes. So, when we do something as a group like group presentations, group assignments, we will come up with a good essay, which is going to be recorded. And I'll know when I'm writing my exam, I know my coursework is super, it's that good. So, I'll be not fearing the exam. So, I think we benefit a lot*

The other group also indicated that:

#### **FGD (01)**

*Cooperative learning, it helps, or it improves, cross-pollination of ideas. In a group, each and every one has different views, or we have different ways of explaining things or ideas. So, if we mix our ideas we come up with a well-written assignment if it is an assignment. So that improves our academic performance.*

*And, working as a group, you will see that in a group there will be, like, some students who will be more intelligent than others. So, others will benefit from, from those who are more intelligent than them. So, that there's a sharing of different... different points. And you... someone will benefit. Even – I don't know what, like, Freud's theory, and Sister knows. She knows it much better than me, so I will listen, and I will benefit from Sister. Like, unlike from the lecturer sometimes, I won't listen.*

Findings from participants indicated that CL enhances social skills. Students from diverse background and cultures have an opportunity to form communal associations. This is supported by FGD 01 which states that:

### **FGD (01)**

*Cooperative learning also promotes good social relations. Like when you are given a task to tackle together, this enables us to familiarize with each other even if we are from different places. Then we get to know each other's background, even life... even family life. And we just become friends, which is good for our life as students at a university, to have many peers whom you can relate with as friends.*

From the FGD 02, it is also clear that CL promotes social skills as one of the students pointed out that:

### **FGD (02)**

*Uhh, I think the other thing is with cooperative learning... As for me, I'm benefitting both on the social life and then on the education aspect. In the sense that, I was self-centred from the beginning. I couldn't work with other people. But then if you are tasked to work as a group, I am forced to. And at the midst, umm, I developed those social skills. Now I know – I now trust others. And, say that if we give Gordon the assignment to type for us, he is going to do justice – he is going to do justice to all our points. So, I think it also - it's also helping.*

*And again, we can cultivate friendships during these, umm, when we will be conducting our presentations, our group presentations. We get to know each other – it's very crucial because we are not like animals. We have to relate to each other, we have to belong to someone. And I think based on this argument I can say we are benefitting a lot through these interactions.*

*And also, with cooperative learning, through working in groups right, we are able to solve our conflicts. Because we cannot work together if we are enemies, right? So, we have to befriend each other so that we can work cooperatively. So, I think it's also good, 'cause it... it solves all the conflicts*

*and the differences that we have, so that we can come up with something that is solid as a group. So, I think it's good.*

A questionnaire response also agreed with the FGD response that CL:

#### **Questionnaire (01)**

*... enables socialization at the institution.*

Further discussions indicated that CL enhances social skills and stronger relations are built as students respect viewpoints from their colleagues. One of the students indicated that:

#### **Questionnaire (10)**

*It develops social skills to the learners. Cooperative learning makes students with different backgrounds, race, colour and gender to work together. They come together in a setting that maybe would not be possible if it were not for cooperative learning. In order to solve a project's given problem, students need to use communication skills. They are able to hear different opinions and learn more about different cultures. The cooperative learning methodology is ideal for children that have difficulties in a social setting. Cooperative learning groups tend to have characteristics of interdependence, shared leadership, and shared responsibility for each other, while task and maintenance are emphasized, and social skills are directly taught for example, students learn to respect each other by using proper register.*

In agreement, Q05 also pointed out that CL promotes social skills as:

#### **Questionnaire (05)**

*The cooperative learning strategies promotes in students and lecturers their social skills such as empathy in that by allowing students to see others' viewpoints, it can help them realize that everyone has strengths and weaknesses.*

There was a clear indication that some students are not quite aware of what CL is all about. The response below reflected that the participant was uncertain. The facts presented failed to clearly address the case presented. The students argued that:

#### **Questionnaire (02)**

*As there are not say right or wrong answers, students build better relationships with other team members as they struggle, deal with failure and eventually work to master the problem presented.*

*In the same vein lecturers assist during cooperative learning when they help to build stronger cooperation among group members. Leadership, decision making, trust building and communication are different skills that are developed in cooperative learning by lecturers.*

*It helps to develop social skills. Children are able to see points of view other than their own. Students work with classmates who have different skills, cultural background, attitudes and personalities. These differences force them to deal with conflicts and interact with others.*

Research outcomes exposed that CL facilitates independent discovery learning. Thus CL:

#### **Questionnaire (05)**

*Helps learners to discover on their own. My argument is that learning and teaching is effective when students discover information and solutions on their own.*

Apart from facilitating independent discovery, CL facilitates active participation and boosts self-confidence. To illustrate that CL facilitates confidence building in students, FGD 01 posited that:

#### **FGD (01)**

*In my own point of view, cooperative learning especially for us student teachers, it helps us to gain confidence. For example, when we are given a presentation topic, you have to stand right up there in front of the people – your colleagues and explain on an issue. And being asked questions in some instances. So, it gives us the practice of what we are going to do in the real world of our teaching field. So, I think it's so good for us student teachers especially.*

In support of the view that CL helps in boosting confidence, FGD 02 similarly submitted that:

#### **FGD (02)**

*I think cooperative learning can boost self-confidence. For example, let's say you are doing a group presentation. The way you stand together as a group in front of the lecture room, I can terminate that self-fear of stage.*

*Yeah, like, even the way we did our Psychology presentations, right. You will say, like, there are some instances like, when doing a presentation; you will depend on one presenter. But that thing was eliminated on... when we did our presentations under Psychology. You will see that every individual who was part of a certain group was made to have a floor, a*



*platform to say something. So, you will see, as we're talking of confidence, like stage confidence like Knowledge mentioned, you will see like when you are forced to present, when you feel like 'I have to', you may be not having the thing in you. But when you go to present, somehow it will give you that courage to, like when you have another platform next time, it will never be the same. Because you will have done that through the cooperative learning thing.*

Questionnaire responses also concurred that CL:

#### **Questionnaire (05)**

*Develops confidence and competence both to the lecturer and the student.*

#### **Questionnaire (10)**

*It increases learners' confidence. As students work as a team, they also receive more support, therefore gain confidence. Cooperative learning can help shy students express themselves more.*

One of the lectures also disclosed that CL promotes confidence amongst learners as:

#### **Interview (05)**

*Working cooperatively usually boosts confidence on the part of the students. By virtue of being adults, university students are normally intrinsically motivated (andragogy) and their combined efforts tend to generate desired results.*

Findings also displayed that CL diffuses anxiety among learners. One of the lectures pointed out that:

#### **Interview (01)**

*R: I'm coming from a background of Psychology, Ma'am. Maybe you'll allow me to talk about Carl Rogers?*

*I: It's okay.*

*R: And his theory, the person-centred theory. He emphasizes the importance of group work, when he said it diffuses anxiety among learners. Because when they work together, they achieve one common mark which is given to the five students, right? And it means when they pass, they pass together. When they fail, they fail together...*

*Umm, the other advantage is that it diffuses, umm, anxiety among the learners. Because this time... tests naturally cause a lot of anxiety among learners. The other very important advantage of cooperative learning is that of scaffolding – when students do scaffold one another*

Similarly, CL improves individual performance. There are some extroverts who need the assistance from the MKOs for them to continue with their educational pursuit. One of the lecturers reasoned that:

### **Interview (03)**

*We have some who learn well in groups. They depend on other people. The moment you try to make them work individually, they don't come up with anything.*

CL also improves individual performance among students. This is achieved as students are accountable for the performance by members of their team. As noted by participants, this is achieved as:

### **Questionnaire (10)**

*In these groups, each individual is responsible for assuring that the other team members learn the assigned material. Those who understand the*

*lesson/material are responsible for teaching it to the others. Groups progress to a new unit of study when all members of the group have mastered the lesson.*

Data collected also acknowledged that CL inculcates some sense of responsibility amongst students. FDG 01 mentioned that:

#### **FGD (01)**

*And, in cooperative learning, umm, it helps because, like, as a group, if I am given a task, I will not relax. I will work hard so that I will, I will come up with some points so that my colleagues will not blame me maybe at the... when the group presentation is final. But we may fail – they will blame me that ‘You didn’t contribute’. So that it encourages me to work hard.*

FGD 02 added that:

#### **FGD (02)**

*Okay, to add on, I think cooperative helps because it... Okay, cooperative learning puts some sense of responsibility in an individual. Because you know that your group members are depending on you. Let’s say we divide points. I give Tino this point – I know that my group is waiting for me to come up with something, to develop the point and then to explain to others. So, it brings a sense of responsibility on an individual*

The above discussions opine that, as students are working as a team, they become more responsible. They are guided by the principle that we sink or swim together.

Interaction orientation is experienced as students are working cooperatively. Some of the students noted that:

### **Questionnaire (09)**

*It is important because it helps learner to interact with each other. Interaction helps learners to understand information more through peer to peer involvement. They share ideas, include participation of shy learners. They develop cognitive learning skills.*

*-learners share ideas*

*-it helps learners to interact with each other.*

Through CL, there is knowledge co-creation as there is mutual understanding between lecturers and students. One of the lecturers indicated that:

### **Interview (01)**

*It encourages students to work together, to achieve the common goal. It promotes cooperative learning, social, umm, cooperation, intellectual cooperation, academic cooperation among the students, as they work together.*

In support of CL knowledge creation, some students indicated that:

### **Questionnaire (05)**

*Students and lecturers through co-operative learning strategy become co-creators of knowledge.*

*The co-operative learning strategies provide the opportunity for the students and lecturers to experience a sense of worth.*

In addition, some students explained that:

### **Questionnaire (10)**

*In these groups, each individual is responsible for assuring that the other team members learn the assigned material. Those who understand the lesson/material are responsible for teaching it to the others. Groups progress to a new unit of study when all members of the group have mastered the lesson.*

The learning environment should be an enjoyable one. CL revealed that an enjoyable atmosphere is created when team members interact to achieve a common goal. Students pointed out that:

### **FGD (01)**

*Ok, umm, cooperative learning is also... umm, it makes me feel, like, sense of belonging. Like, identified. Because if I... I can feel belonging to a certain group; I can easily explain what I feel or what views concerning the concept which is being asked.*

### **FGD (02)**

*And another aspect is on the issue of anxiety. When I'm working with my peers I can feel comfortable. Than when the lecturer is asking me questions, sometimes I'll be shivering.*

*[Participants laugh]*

*So, I think these cooperative...*

*Personally, I would say, personally I hate being bored by these tasks that we have as students. So, when we do things like group assignments and group presentations, when I do it with my peer Knowledge, like you heard him referencing "...back at Mucheke that day". We were having – we had fun at Mucheke. But we did the presentation. So it makes me get into the*

*thing, while enjoying it. I respond and write to the questions, while enjoying the task that I am doing because I will be having my peers around, whom I enjoy spending time with. No matter what I'm doing, but as long as they are around, I enjoy whatever it is that I will be doing at that time. So cooperative learning makes me enjoy the tasks that I do as a student.*

In pursuant of how CL creates enjoyment through learning, one of the lecturers noted that:

#### **Interview (01)**

*...they will pass jokes here and there, which will help students to remember some of these things. Right? The learning atmosphere will be very relaxed.*

One of the lecturers also indicated that:

#### **Interview (04)**

*You know, most of the approaches used in the universities sort of portray a situation where the lecturer is doing all the talking, and the student is writing and writing and writing. And I don't see that as effective where teaching and learning is concerned. As long as the learner is not making meaningful contribution, then the effectiveness of the learning session is sort of... It doesn't bear any fruit at all. But if the student is contributing, then that student will even understand better, hence learning becomes effective.*

*Apart from that it also makes learning fun. (both laugh) Learners do not have that time to doze off during lectures because they know that they have to be doing something.*

From the above responses, it can be deduced that learning becomes enjoyable as students would be making fun during learning sessions. When students are

taking an active role, it enables them to retain the concepts learnt as they are part and parcel of the learning activities. One of the students also indicated that:

#### **Questionnaire (05)**

*If cooperative learning is well executed it makes learning and teaching active, enjoyable, fun and interesting.*

#### **4.5.3 Importance of CL**

In responses to the question that sought to find out why CL strategies are important varied views were shared by research participants. Student Q8 indicated that:

#### **Questionnaire (08)**

*Cooperative learning strategies are important in instruction because students are motivated to help one another. When students are working towards a common goal academic work becomes an activity valued by peers.*

*Cooperative learning also has greater intrinsic motivation higher self-esteem, more on –task behaviour, greater social support, better attitudes towards lecturers and school. This strategy produces healthier psychological adjustment that can do competitive or individualistic experiences.*

CL strategies were applauded for promoting academic achievement. Q2 claimed that:

#### **Questionnaire (02)**

*Cooperative learning strategies are instructionally important for pre-service secondary education because they promote academic achievement.*

*Cooperative learning produces greater student achievement. Low achieving students tend to work harder when grouped with higher achieving ones.*

CL strategies were instructionally important for pre-service students because:

#### **FGD (01)**

*Cooperative learning, it helps, or it improves cross-pollination of ideas. In a group, each and every one has different views, or we have different ways of explaining things or ideas. So, if we mix our ideas we come up with a well-written assignment if it is an assignment. So that improves our academic performance.*

Furthermore, CL has been noted to promote critical thinking amongst the students. One of the lecturers reasoned that:

#### **Interview (04)**

*Meaningful contributions during lectures. They contribute meaningfully to the lecture. And it also encourages them to think.*

Q05 and Q07 also supported the view that CL promotes critical thinking as Q05 noted that CL:

#### **Questionnaire (05)**

*Promotes critical thinking and problem-solving skill an both students and lecturers.*

*Helps the students to become more articulate and able to organize their ideas in a logical and coherent manner.*

In addition, Q07 pointed out that:



### **Questionnaire (07)**

*... critical thinking is developed during question and answer session*

*How can current learning strategies in pre-service secondary school teacher education be supported more effectively through CL?*

Research findings have shown the significance of CL as it promotes unity and teamwork amongst students. To emphasise how teamwork is promoted by CL, INT 01 expressed that:

### **Interview (01)**

*Then there is no individualism. So cooperative learning does not encourage individualism. It encourages the African concept of ubuntu, where there is communalism, interdependence, where people depend on one another, right? Those African ethos are imparted through cooperative learning. I don't know if I have answered you, Ma'am?*

Furthermore, Q01 also noted that:

### **Questionnaire (01)**

*It promotes unity in learning*

In essence, there is still competition, albeit among groups, as noted by Q02:

### **Questionnaire (02)**

*Some forms of group competition promote cohesiveness among group members and group spirits.*

INT 02 also noted that CL strategies are significant in the sense that students are taught to work as team. INT 02 highlighted that:

### **Interview (02)**

*They are significant in the sense that we are teaching them to work as a team. Just like the whole body has many parts but each part has a different function. So, at times, these students in their groups, they allocate one another portions to go and find out. This is a way of also ensuring that everyone will have to come and make a presentation to the group as contribution. So, the contribution is not that one has got to be physically there per se, only. But amongst them, they say, you are going to research on this aspect, so and so will research on this other aspect, and we are going to meet together tomorrow at this particular time. And then they come together, each one with what they will have found out, and then they make a presentation. Such that they will then make a report that one person will come to report on. So, it's not just the physical presence, but the subdivisions of, this part, research, and then come to make a contribution to the group.*

*The fact that amongst the students, they allocate one another a sub-section to go and research on and then come to make a presentation to the group...*

Research outcomes similarly disclosed that CL reduces discrimination among learners. Q04 was of the opinion that CL:

#### **Questionnaire (04)**

*Reduces discrimination of gender removing the myth of who are the most intelligent or dull.*

FGD 01 suggested that:

#### **FGD (01)**

*Ok, umm, cooperative learning is also... umm, it makes me feel, like, sense of belonging. Like, identified. Because if I... I can feel belonging to a certain group; I can easily explain what I feel or what views concerning the concept which is being asked.*

The above sentiment shows that discrimination is minimised once an individual belongs to a certain team or group.

Flexible learning environment is encountered during CL since there is diminished anxiety. FGD 02 noted that:

**FGD (02)**

*And another aspect is on the issue of anxiety. When I'm working with my peers I can feel comfortable. Than when the lecturer is asking me questions, sometimes I'll be shivering.*

*[Participants laugh]*

*So, I think these cooperative...*

*Sometimes she forces us to speak in English, because she'll be saying 'There are foreigners in here'. And when I'm with him, we can use our language, our home language.*

*Umm, the other thing, as an individual, with cooperative learning I think I benefit more 'cause, when the teacher is explaining, right, I might not get to argue with whatever he is saying, right. But if my colleague says something, right, I can criticize his point right, because he's my peer. We're of the same age. But with the teacher, I might say 'Ah, if I criticize his or her point, what if she removes some marks on my final examination mark?' Because I don't know what he or she will be thinking. Teachers, umm, our lecturers are different. So, if my peer says something right, I can criticize him umm, openly, unlike a lecturer. So, I think it's good 'cause I'm able to criticize and then come up with a conclusion as peers unlike with a lecturer*

One of the students submitted that students feel comfortable with lessened anxiety. Students feel comfortable to criticize their colleagues unlike their lecturers who might take it personally and end up victimizing the student. INT 01 also indicated that the

learning environment during CL is a relaxed one as students are at liberty to share jokes. The indications were that:

#### **Interview (01)**

*... they will pass jokes here and there, which will help students to remember some of these things. Right? The learning atmosphere will be very relaxed.*

*It's unlike in a classroom, where the teacher will be in control, right? But this time, during cooperative learning, the students choose their own venue. I remember seeing some students, some of my pre-service students, at Wimpy during their discussions. And the environment was so relaxed. They would talk about anything, refer to anything, in a relaxed environment. So, against that background, it is easy for the students to understand when they are within the comfort of their – within their own comforts they can do better than when the environment is strict, restrictive.*

For effective CL to take place, there ought to be adequate timing. FGD 01 pointed out that:

#### **FGD (01)**

*Well, I think the lecturers should give us more time, since it requires time as... since you won't be working by yourself but then it will be something that is collaborated. So, we need time so that we can assess, understand, and give each other time to explain what we're talking about or our assignment. So, I think time is needed – we need more time.*

FGD 02 also agreed that:

#### **FGD (02)**

*In another aspect, I think lecturers they must give students more time, since cooperative learning is time-consuming. So, students they must be*

*given time to come together, to organize so that they can come up with something which is good.*

Furthermore, there ought to be adequate time for research as pointed out by Q01:

**Questionnaire (01)**

*The students can be given enough time so that they research more on the topic.*

**Questionnaire (10)**

*Give students time to think before they respond or give feedback.*

Adequate time for CL has been a cause of concern for students as expressed by Q05:

**Questionnaire (05)**

*Adequate time should be available to the cooperative learning*

*Lecturers should give enough time to cooperative learning methods. Time constraints have affected the successful implementation of cooperative learning methods.*

Collective engagement is also facilitated through CL. However, for this to occur, Q05 proposed that:

**Questionnaire (03)**

*Lecturers should ensure that each and every group member has contributed to the presentation or assignment because at times only one or two members participate and most of the members do not contribute to the presentation or assignment. student teachers should all participate in group work lectures should be all involved. All of them should contribute in the discussion for them to be fruitful*

In addition, Q05 also highlighted that:

### **Questionnaire (05)**

*The teacher-students should be involved in team building process. This allows students to work in groups and collaborate on activities that require collective endeavours. The socialization process reinforces appropriate behaviours among participants. The students and lecturers should be able to determine and understanding the nature of the problem. These are the first basic steps.*

CL helps in imparting social skills. This was observed by Q02:

### **Questionnaire (02)**

*I think impartment of social skills has to be done to promote effective cooperative thinking. Social skills help to build stronger cooperation among group members as well as to reduce conflicts within a group.*

## **4.6 Research question 4: Ways to improve cooperative learning**

### **4.6.1 What can be done to improve CL strategies in pre-service secondary school teacher education?**

Varied responses were given in response to the question that sought to find out what can be done to improve cooperative learning. Suggestions included that there ought to be adequate learning. One of the lecturers, INT 4, indicated that:

### **Interview (04)**

*I think teacher preparation – lecturer preparation, also counts a lot because when one engages in these types of activities one has to be adequately prepared for it. It's not something that can be done haphazardly. So, it demands a lot of preparation on the lecturer's part. The lecturer should know when, or at what point during the lecture, he or she should incorporate this type of approach.*

Adequate research resources were also highlighted by the students as a way to improve CL. Q1 noted that:

#### **Questionnaire (01)**

*The institution can also provide enough books so that the students will get reference*

*Internet is also vital in improving effective cooperative learning strategies.*

*The students need internet so that they can research more and download pictures and videos if necessary they may also use internet to buy or download other books that may not be found at the institution*

*Internet is also need so that the students will be able to share their researches through different platforms that may include YouTube, Facebook amongst others*

Q5 was also of the view that:

#### **Questionnaire (05)>**

*The adequate availability of resources such as textbooks and internet are important to allow more effective use of cooperative learning strategies.*

*Failure to have information resources incapacitates the students and therefore frustrates them.*

*Provide high quality materials that encourage cooperative learning e.g. textbooks, academic journals and articles.*

In addition, Q7 noted that:

#### **Questionnaire (07)>**

*Provision of ICT facilities improves CL.*

The above sentiments indicate that the institutions are in dire need of resources to facilitate the smooth implementation of CL. Students pointed out that adequate time is required during CL. FGD 01 suggested that:

#### **FGD (01)**

*Well, I think the lecturers should give us more time, since it requires time as... since you won't be working by yourself but then it will be something that is collaborated. So, we need time so that we can assess, understand, and give each other time to explain what we're talking about or our assignment. So, I think time is needed – we need more time.*

In concurrence, FGD 02 was of the opinion that:

#### **FGD (02)>**

*In another aspect, I think lecturers they must give students more time, since cooperative learning is time-consuming. So, students they must be given time to come together, to organize so that they can come up with something which is good.*

The outcry on the insufficient time for CL is highlighted by Q01 who pointed out that:

#### **Questionnaire (01)**

*The students can be given enough time so that they research more on the topic.*

Q05 concurred that lecturers are obliged to give adequate time as:

#### **Questionnaire (05)**

*Adequate time should be available to the cooperative learning  
Lecturers should give enough time to cooperative learning methods. Time constraints have affected the successful implementation of cooperative learning methods*

#### **Questionnaire (10)**

*Give students time to think before they respond or give feedback.*



One of the lecturers, INT 03, also complained that the time allocated to CL strategies is not adequate as:

**Interview (03)>**

*It's only because of time, at the university. Some of the groups are block release groups. There are block release groups, and you would find that it would be very difficult to engage in cooperative learning because of the limited number of hours in which we are in touch with them.*

Teacher–pupil ration should be minimised to improve the implementation of CL strategies. This was articulated by Q08 who expressed that:

**Questionnaire (08)**

*To improve cooperative learning strategies at GZU the teacher pupil ratio is sometimes too high especially compulsory modules so if it could be reduced to manageable groups it would be easy for lecturers.*

CL strategies can also be improved by varying the teaching methodologies. In support of this sentiment, Q07 and other participants pointed out that:

**Questionnaire (07)**

*Lecturers can also vary their teaching ads for example involves videos to cater for all learners and reduce the boring of lessons by continuous presentations. Some will end up attending lectures when they are presenting.*

**Questionnaire (02)**

*Improved communication can be done to improve cooperative learning. Students can understand each other and the concept easily where there is improved communication. There is need to maintain small groups in order to improve cooperative learning. Small groups are easy to control and all students will be active which means everyone will be participating.*

### **FGD (02)**

*Okay, I think to improve cooperative learning, the lecturers must – must allow us to choose our... our peers who we will work the presentation with. Unlike what was done in Media mostly, the lecturer chose the people and then said to them that you are going to do that question. We have differences; we have different – different norms, values, different views. So to... to enhance cooperative learning I think we should choose ourselves. Because we know each other well and we can work together well.*

### **FGD (01)**

*I think, for collaborative learning to be effective, if learners are grouped they need to be grouped in manageable numbers, unlike numbers of twenty or fifteen. Cooperation will be a problem. So, if people are grouped in groups of five or seven, maximum ten, it will be effective because everybody will have the floor to participate.*

In response to the question that sought to find out how lecturers can promote active student participation, Q03 advised that:

### **Questionnaire (03)**

*Lecturers should ensure that each and every group member has contributed to the presentation or assignment because at times only one or two members participate and most of the members do not contribute to the presentation or assignment.*

*Student teachers should all participate in group work lectures should be all involved.*

*All of them should contribute in the discussion for them to be fruitful*

Collective engagement, as noted by various participants, is required:

### **Questionnaire (05)**

*The teacher-students should be involved in team building process. This allows students to work in groups and collaborate on activities that require collective endeavours. The socialization process reinforces appropriate behaviours among participants.*

a)

*The students and lecturers should be able to determine and understanding the nature of the problem. These are the first basic steps.*

### **Questionnaire (07)>**

*. Involvement of students when making certain decisions*

By involving students this necessitates ways of promoting active student participation

## **4.7 Ways in which current learning strategies in pre-service secondary school teacher education are supported more effectively through co-operative learning.**

Varied opinions were raised by participants on how current learning strategies in pre-service secondary school teacher education are supported more effectively through co-operative learning. Q08 was of the view that:

### **Questionnaire (08)**

*The current learning strategies in pre-service secondary teacher education at GZU can be supported by having auditoriums structured in such a way that communication is easy and effective for everyone especially during discussions and lectures. There is also need for voice projectors.*

### **Questionnaire (09)**

*Providing discovery learning and resources for learners to use*

CL strategies in pre-service secondary school teacher education can also be supported more effectively as lecturers assist student teachers with guidelines on how to research information, how to select the proper information and how to write distinctive essays and presentation than to just give topics and expect learners to do it themselves. The lecturers should be trained in the use of CL strategies. Students should be taught about the importance of healthy criticism. There are people who take offence when they are professionally criticized. More so, some students are reluctant to criticize their peers. CL strategies can also be supported by involving students in a team building process which allows students to work in groups and collaborate on activities that require collective endeavours. The socialization process reinforces appropriate behaviours among participants.

Collective engagement is required as one of the ways in which current learning strategies in pre-service secondary school teacher education are supported more effectively through co-operative learning. Q03 pointed out that:

#### **Questionnaire (03)**

*Lecturers should ensure that each and every group member has contributed to the presentation or assignment because at times only one or two members participate and most of the members do not contribute to the presentation or assignment.*

*Student teachers should all participate in group work lectures should be all involved.*

*All of them should contribute in the discussion for them to be fruitful*

Q05 further pointed out that:

#### **Questionnaire (05)**

*The teacher-students should be involved in team building process. This allows students to work in groups and collaborate on activities that require collective endeavours. The socialization process reinforces appropriate behaviours among participants.*

b)

*The students and lecturers should be able to determine and understanding the nature of the problem. These are the first basic steps.*

#### **4.8 What should be done to promote effective co-operate learning?**

Some participants pointed out that there ought to be some incentives and rewards to promote effective CL. Their views are cited below:

##### **Questionnaire (01)**

*Reinforcement from the institution can also improve cooperative learning strategies. Positive reinforcements may largely be necessary. That is if the group is outstanding coming up with valuable information, the institution or the department may reward the group by free text books or free laptops so that the students will be active in working as a group in their researches.*

*The ministry of higher and tertiary education can also provide computers and text books for outstanding researchers.*

##### **Questionnaire (02)**

*Lecturers promote more active student participation during cooperative learning session through rewarding high achieving groups. They can reward by verbal praise and recognition in the class.*

##### **Questionnaire (10)**

*Provision of group rewards, such as giving them positive comments may help to promote positive and appropriate behaviour among students in a class. Students often give less than full effort when attempting class work, assignments and various tasks. Through a reward-based-system, students will show interest and increased participation in cooperative learning and everyday duties.*

*If inter-group competition is involved, perhaps the winning and most improved teams will receive a prize. Recognition might also be given to groups that were the quietest, quickest, neatest, most creative, etc.*

From the above responses, it is evident that all students believe that incentives and rewards ought to be given to the CL teams. Rewards have been noted to boost the self-esteem of students. It has been suggested as a way of promoting positive attitudes among students in the implementation of CL strategies.

For effective CL to take place, there ought to be monitoring and evaluation.

#### **Interview (01)**

*I think it's very important that, as teachers, we monitor effectively...*

*...cooperative learning. Especially, umm, we assign every member of the group a task, so that when they converge as members of the group they share ideas on different aspects. And by so doing I will ascertain that everyone, every member in a group will have contributed something.*

#### **Interview (03)**

*It's required if we are to maybe manage our own instructional objectives. Sometimes when you state an objective as an instructor or as a lecturer, you'll find that if you do not monitor properly you... You assign work to students and you don't supervise... Your own objectives may not be achieved.*

*So deep intense supervision is critical. And a lot of scaffolding where necessary. And also creating time. Now at Great Zimbabwe University sometimes we find ourselves, umm, trying to have extra lectures over the weekends. Main reason is to try and assist, especially in large classes.*

#### **Questionnaire (09)**

### **Questionnaire (10)**

*Evaluate each group's performance. Grades might be assigned based upon the average performance of the group thus promoting positive interdependence or the effort/quality of performance of individual members in the execution of their duties. In many cases, each group decides how it will demonstrate what has been learned. Each group's work is judged on its own merit rather than in comparison with the outcomes of other groups.*

Through positive interdependence, students ought to be aware that their performance is dependent upon the effort of their colleagues. Hornby (2009:161) emphasises individual accountability and positive interdependence to achieve optimum efficacy of CL. Basically, individuals need to rely on their colleagues for effective CL to take place.

CL promotes diversity. This can be achieved if students are encouraged to accept others. FGD 01 highlighted that:

### **FGD (01)**

*Also, I think, as lecturers, lecturers must encourage students to accept others' views. Because in most cases during the group discussions, other students may try to dominate. And they look down upon the answers of others. So, if my answer is being looked upon, I lose self-motivation, and then I won't participate again in the group discussion. So, I think learners must encourage their learners to participate or to accept the views of others.*

*Umm, to add on that one, the lecturers should always advise students... should put aside the differences. Whether it's difference in language, our backgrounds, we should accept each other as... and work as a group. It will also help cooperative learning.*

Findings have revealed that teacher-pupil ratio is not bearable.

#### **Interview (02)**

*Because there are some classes where they are – it's common module, where you'll have 120 students, and you cannot have 120 students each one coming to give feedback.*

#### **Interview (04)**

*I: How big are your classes?*

*R: My class has got two hundred and thirty-four.*

*I think the lecturer to student ratio comes in. It becomes very very difficult to sort of monitor the situation – remember I said when they are working in pairs I go around assisting them. When that if number is two hundred or more then it becomes very difficult for the lecturer to meaningfully monitor the situation and assist the different groups that will be engaged in the cooperative learning. So, I think the numbers come in there. And apart from the number is the issue of the venues as well, because it requires one to move around freely when assisting the students.*

*The mass lectures used to work long back, when you'd just go and preach like you are in a church. But right now, I don't see their relevance. Of course, I do understand that with common modules there's nothing else that can be done, but I do believe that when the numbers are large it reduces the effectiveness of cooperative learning.*

Findings from the remarks of participants above are clear that it becomes difficult to manage CL groups considering the teacher pupil ratio. Venues have also been noted to hinder smooth running of the CL strategies.



## **4.9 Summary**

This chapter presented the findings on the critical investigation of the use of cooperative learning strategies in pre-service secondary school teacher education at two state universities in Zimbabwe. The study examined how CL learning strategies are implemented in the two state universities. From the findings, it is evident that the majority of participants broadly and unwittingly generalized the strategies being used by teacher educators in pre-service secondary school teacher education. The confusion on what CL entailed was not just evident among students but also among some lecturers. Findings from participants indicated that CL enhances social skills as students from diverse background and cultures have the opportunity to form communal associations. CL has been applauded for promoting critical thinking and problem-solving skills for both students and lecturers. The next chapter focuses on the discussion of findings, summary, recommendations and proposed theories.

## **CHAPTER 5**

### **DISCUSSION OF FINDINGS, SUMMARY, RECOMMENDATIONS AND PROPOSED THEORIES**

#### **5.1 Introduction**

This conclusive chapter institutes whether the solicited data managed to address the research problem addressing the research questions highlighted in the preliminary chapter. Summary and findings focused on the critical investigation on the use of cooperative learning strategies in pre-service secondary school teacher education at two state universities in Zimbabwe. Findings in Chapter 4 revealed that the research problem and research objectives were accomplished. Discussions on the research findings, as set out in Chapter 4, are explored in detail in this chapter. This chapter also focuses on the conclusions drawn from the data collected thus linking the chapter to literature review and the research methodology adopted for the study. Some recommendations have been drawn based on the research findings. Thereafter, theories were generated anchored on a grounded theory that was adopted which had inbuilt emphasis on generation of a theory which is grounded in the data (Tavakoli, 2012: 247). This study was guided by the following research questions:

- Which are the CL strategies used by teacher educators in teaching and learning in pre-service secondary school teacher education at MSU and GZU?
- How do teacher educators use CL strategies in pre-service secondary school teacher education at MSU and GZU?
- How can current learning strategies in pre-service secondary school teacher education at MSU and GZU be supported more effectively through cooperative learning?
- Why are CL strategies instructionally important to pre-service secondary school teacher education at MSU and GZU?

#### **5.2 Discussion of the research findings**

The preceding chapter focused on analysing the data solicited from the research participants. Findings were based on the questionnaires, interviews and focus group

discussions that were conducted with students at Great Zimbabwe University and Midlands State Universities.

### **5.2.1 CL strategies used by teacher educators in pre-service secondary school teacher education**

Collection of themes indicated that CL makes use of varied techniques (Mehtaan and Kulshrestha 2014:2). These include cooperative games, group assignments, group discussions, group exercises, group presentations, group work, interview teaching, jigsaw puzzles, numbered heads together, role playing, round robin, STAD, student-to-student teaching, think-pair-share as well as the write around approach. Based on the research findings, all participants agreed that they use CL. However, it was evident that the majority of participants broadly and unwittingly generalized the strategies being used by teacher educators in pre-service secondary school teacher education as being, largely and/or invariable, group work. This clearly indicates that, at institutional level, the current implementation of CL is flawed because participants are not aware of the strategies that are pivotal to CL. From the findings, group work accounted for close to half of the responses on the strategies used to execute and implement CL by teacher educators in pre-service secondary school teacher education. However, as supported by Burke (2011: 88) and Riaan and Wandt (2014: 611), group work is rather a tool, with the actual strategies being how the groups are formed and how the group work is structured and expected to deliver.

Astonishingly, confusion of what CL is was not just evident among students, but also among lecturers who failed to meaningfully clarify the actual strategy used in group work. It was therefore disappointing to note that some lecturers were not quite aware of CL strategies. This clearly reflected the poor understanding of the concept of CL. Group presentations were also noted by participants as one of the CL strategies. The latter presents a case that demands attention because, if group presentations are seemingly the main CL strategies used, it then most likely that CL may not have been implemented appropriately. The problem becomes magnified when it comes to strategies of CL. Heterogeneous grouping was also mentioned as one of the strategies. Nevertheless, heterogeneous or homogeneous grouping are not strategies in CL per se, rather, they

are nothing more than simply grouping techniques (Huang, 2016: 1). These can be applied to complement a specific CL strategy that would have been opted for by the lecturer. The generalization of strategies as heterogeneous grouping could not suit the anticipated level of precision required. Students also blundered by listing group discussion as one of the CL strategies. Confusion was also noted when students mentioned group assignments as one of the CL strategies. Surprisingly, presentations were noted as one of the “major” aspects. This response clearly indicates a case that demands attention because it is most likely that CL is not done appropriately. Interestingly, interview teaching was also mentioned as one of the strategies. However, the participant failed to elaborate how the purported ‘interview teaching’ works. It was quite pleasing to note that some respondents correctly specified that jigsaw and STAD were CL strategies. While these are clearly CL strategies, the fact that these were cited by two participants only reveals the probability of condensed familiarity of implementation by some lecturers.

In response to the question that sought to find out whether lecturers monitor students during CL, findings revealed that supervision is not always done all the times. This was clearly pointed out by one of the lecturers who cited that:

*Ah, not always. Sometimes I don't monitor, to be honest.*

### **5.2.2 Teacher educators' use of CL strategies**

Findings revealed that CL perpetuates social skills. Social skills are necessary for the success of cooperative group (Atxutta, Villardon-Gallego and Calvete (2015:, 2015:341). Akthar et al. (2012:141) agree that CL approaches take advantage of creating a bond among learners which can lead to increased understanding and acceptance of all members of society. Once a bond has been created, students may thus develop social and communication skills leading to interpersonal competencies that allow them to function in a group (Alenka, 2015: 136). They learn to support each other, to deal with heterogeneity in a group, to work in a team and to deal with the perspectives of others (Al-Yaseen, 2014:93). Students would thus learn to respect and tolerate uniqueness among themselves.

CL preserves a sense of belonging among students. As one of the students highlighted that through CL, they feel some sense of belonging by working with their colleagues. The more individuals work cooperatively with others, the more they see themselves as worthwhile and as having value, the greater their productivity and acceptance and support for others (Johnson & Johnson, 2014: 843). CL has been observed to promote teamwork among students. During CL activities, each member of a team is responsible, not only for learning what is taught, but also for helping team-mates learn, thus creating an atmosphere of achievement (Tsay & Brady, 2010:2). Students get to know that their progress is perpetuated or hindered by their colleagues. Considering this, students are bound to work together and feel for each other thereby shunning individualism (Masowa & Mamvura, 2017: 35).

CL helps to create team culture. Culture influences what people know and how they come by that knowledge, and culture plays a significant role in the education process (Sharan, 2010: 198). Knowledge is therefore influenced by culture. In a study carried out in Malaysia, Arumugam, Rafik-Galea, De Mello and Dass (2013: 81) suggest that students' learning is embedded in rich culture and attributes and, as they interacted in their groups, they demonstrated positive values such as unity, tolerance, obedience and respectfulness. In addition, Gocer (2010:443) observes that some students with different cultures, experiences and learning modes get together to achieve success towards a common goal by assuming responsibility for each other's learning as indicated by some students who may end up diverging from the assigned task to assist others. Culture is thus viewed as having some effects on the implementation of CL.

Findings also revealed that one of the important issues in CL in any field of education is the development of critical thinking skills (Dabaghmanesh & Soori 2014: 286). Furthermore, Dabaghmanesh and Soori (2014) elaborate that CL is a valuable instrument for developing critical thinking for it creates the most desirable classroom surrounding where learners experience psychological safety, intellectual freedom and respect for one another as individuals of worthy. Intellectual freedom is enhanced when all CL team members have the autonomy to share ideas with their colleagues.

CL imparts a sense of belonging to learners. Kolb and Kolb (2005: 41) claim that one of the major components in CL is having a sense that lecturers and students are respected and valued as individuals in the school community. This has been supported by some students who have shown that through CL they possess a sense of belonging. Students become devoted to whatever they are doing once they feel that they are contributing to a group which they have full ownership. CL has also been noted to inculcate responsibilities among the team members. It is therefore very important that all students are responsible for the task that they have to carry out in a group, and each member is responsible for learning materials and contributing to the goal of the group (UNESCO, 2004:46).

Research findings also revealed that CL motivates students to learn. One of the students indicated that CL methods increase student motivation and effort by allowing students to come together on a common task or project. When students are motivated, they may realise that working together allows them to achieve more than what they would on their own (Alenka 2015:135). Students ought to understand that their group task is 'sink or swim', and that group success depends on the personal commitment of each member (Brame & Biel 2015:15). This clearly indicates that failure or success of the team members is dependent upon the determination of the colleagues.

Research outcomes revealed that CL reduces discrimination among students. This is achieved by fostering members' understanding and acceptance of one another as well as successful communication. This requires the development of a sense of belonging to the class by creating good relationship between peers (Alenka, 2015: 137). By accepting others, students take advantage of heterogeneity in class by encouraging learners to learn from one another and from less knowledgeable others (Akhtar, Perveen, Kiran, Rashid & Satti, 2012:144). Students will learn to accept diversity among them and embrace diversity working amicably as a team. Knowledge co-creation is also achieved during CL.

Interdependence is also achieved during CL. In the absence of interdependence, members do not cooperate to reach a common goal (Alenka, 2015:135).

Interdependence enhances group members to achieve collectively (Atxurra, Villardon-Gallego & Calvete, 2015:340).

### **5.2.3 Ways lecturers promote more active student**

In a modern-day pedagogy where teachers serve as facilitators of learning activities rather than performing the traditional lecture method (Laguador, 2014:46), it is recommended that CL should take a centre stage to promote student-centred approach. However, in implementing CL as a modern-day pedagogy, some significant shortcomings that impinged upon its efficacy was the lack of clear standard guidelines on the grouping criteria. In cooperative learning, there is too much involvement of every student in discussing materials and helping or sharing material with each other (Atta, Jamil, Kundi & Siddique, 2013:87). It is imperative that the groups should consist of a minimal number to enable students to be fully involved in the discussions. The findings have revealed that sometimes the group comprises twenty or more students making it difficult for everyone to participate. There is also a need to wean the dependency syndrome among students. As highlighted by one of the students that some of their colleagues are not engaged during discussions though their names would appear on the group list. This means that some students reap where they did not sow as they are awarded marks, yet they were idle or were not present during discussions.

Basing on research findings, lecturers should ensure that every group member has contributed to the presentation or assignment because at times only one or two members participate and most of the members do not contribute to the presentation or assignment. To avoid a scenario where some students are allocated similar marks with their colleagues without any participation, one of the lecturers pointed out that sometimes marks are awarded as per individual's effort. Pujari and Rao (2013:28) suggest that using CL in college settings empowers students with a mind-set that one must exercise their collaborative skills and work with others to achieve a common goal. Bearing this in mind, students feel that they have an obligation to participate. In support of this, Kyriacos (2001:31) notes that during CL students are enabled to obtain greater autonomy into the conduct of learning activities through observing the performance of

their peers, sharing and discussing procedures and strategies. They feel that they are like participants in a tag of war where members of one team should pull hard for the success of their team.

Further suggestions were, *that lecturers can also promote active student participation during cooperative learning sessions through ensuring that each student contributes his or her ideas or says something during group discussion.* Furthermore, Alenka (2015:136) suggests that group members should learn helping and encouraging one another. UNESCO (2004:46) recommends that it is important that all students are responsible for learning the materials and are contributing to the goal of the group. In so doing, the weaker students, who are likely to give up when they get stuck; being responsible for the success of a whole group keeps them going (Ahmadpanah, Soheili, Jahangard, Bajoghli, Haghighi, Holsboer-Trachsler, Brand & Keikhavandi, 2014:1031). The fact that all team members are valued boosts the zeal for all the students to learn.

The findings also exposed that, when students are working towards a common goal, academic work becomes an activity valued by peers. They value it by bearing the responsibility for their own contribution towards the common cause (Alenka, 2015:135). Cohen, Brody and Sapon-Shevin (2004:3) argue that all students need to learn and work in environments where their individual strengths are recognised, and individual needs are addressed.

#### **5.2.4 Why cooperative learning strategies instructionally important for pre-service secondary teacher education?**

Findings have also revealed that CL groups in Zimbabwean universities are either non-scientific, or non-standardised. One of the lecturers indicated that monitoring per se is intermittent and they ultimately resort to giving homework. To this effect, there is need to ensure that the lecturers should ensure that monitoring is done even after lectures. This could assist in ensuring that students remain focused on the tasks they are supposed to be focusing on. There were clear indications that the class sizes are overwhelming. As a result, it becomes a mammoth task for lecturers to constantly supervise students. Gocer (2010:443) observes that students from different cultures,



experiences and learning modes get together to achieve success towards a common goal by assuming the responsibility of each other's learning. In this study, some students indicated that they sometimes diverged from their assigned task to assist colleagues. One student indicated that since they have different norms, values and different views, they should be allowed to choose their group colleagues. However, the researcher believes that the lecturer ought to select group members. This is guided by the principle that cooperative learning should embrace students from different ethnic and social groups. One of the students testified that s/he has benefitted from CL both socially and educationally as she can now work with other people and has learnt to trust others. S/he was previously self-centred from the beginning. This is supported by the view that human beings adapt to community life in which they rarely work alone but always tend to interact in a safety social medium which supplies them the necessary support to continue their life (Gubbad, 2010:13).

CL strategies are instructionally important for pre-service secondary teacher education since students from diverse background and cultures have the opportunity to form communal associations. Communal associations facilitate CL activities as students listen and respect each other and therefore feel that they are central to the association (Al-Yaseen, 2014:93). The significance of CL is thus noted as it inculcates some sense of responsibility amongst students. Responsibility is instilled as each member of a team is responsible not only for learning what is taught but also for helping team mates learn, thus creating an atmosphere of achievement. Students should understand that they "sink or swim together" as they work for the attainment of specific instructional goal (Cushner, McClelland & Safford, 325).

It was also noted that CL extinguishes the issue of individualism. This is achieved through *ubuntu* which aims to eliminate the spirit of individualism perpetuated through such teachings as, '*Ini ndini, lwe ndiwe*' (I am, you are), which emphasize the individual separateness from other members of the community (Hapanyengwi-Chemhuru & Makuvaza, 2014:3). This spirit of separateness clearly indicates that an individual is not concerned about what happens to the next person. However, Higgs (2003:15) highlights

that the development of cooperative skills in younger people will play a crucial role in promoting and sustaining the sort of communal interdependence and concern with the welfare of others that is encouraged by “*ubuntu*”. Communal interdependence suggests that individuals learn best when working together during joint collaboration, and it is through such collaborative endeavours with more skilled persons that learners can internalise new concepts, psychological tools and skills (Shabani, Khatib & Ebadi, 2010: 238). It was also noted that CL reduces discrimination among learners. It allows students from diverse background to work towards achieving a communal goal. Communal aspects of African philosophy of “*ubuntu*”, when infused in education, can help create a community of learners who learn from one another in an unselfish manner (Msila, 2009:312).

Findings also revealed that CL creates a teamwork culture (Bulut, 2010). As an educational technique, CL provides a vehicle to attain a sense of community. In support of this point, Msila (2009:312) argues that: “Communal aspects of African philosophy, when infused in education, can help create a community of learners who glean from one another in an unselfish manner”. CL has been valued for developing cognitive skills. Hartman (2010:161) supports this view by noting that there are good reasons for the old saying which says that the best way to learn something is to teach it. It thus appears that cognitive development is facilitated in situations where the learner interacts with others of higher ability (Seabi, Cockcroft & Frdjon, 2009:162).

CL disclosed that an enjoyable atmosphere is created as the team members interact to achieve a common goal. It negates individualism where one celebrates a member falls along the way. As stated by Johnson and Johnson (2014:843) working cooperatively with peers perpetuates personal ego-strength, self-confidence and autonomy by being involved in cooperative efforts with caring people who are committed to each other’s success and well-being, and who respect one another as separate and unique individuals. One’s ego is achieved after the success of their team.

CL has been commended for creating a sense of belonging amongst learners. One of the students noted that CL made her feel a sense of belonging to a certain group. Belonging to a team thus enables team members in every group to know their peers

better and this can assist them to observe and monitor directly their peers' performance (Fauziah, Surianr & Elnetthra, 2016:69). Data collected also revealed that students benefit from the assistance of the more knowledgeable others. Students therefore learn better through interaction with other students (Sardareha & Mohd Saadb, 2012:346). As students work cooperatively, they gain from each other's efforts; they share a common fate and feel proud for group success (Akhtar, Perveen, Kiran, Rashid & Satti, 2012:142).

Findings established that sharing of ideas among students is necessitated through CL. In addition, CL discourages the traditional class activities which create a win-lose situation, where one can only succeed if the other loses, while CL is direct opposite to it as conquest of all is success of all (Gull & Shehzad, 2015:247). As students share ideas group members learn together, encourage and help each other (Alenka, 2015:136) to achieve an assigned task.

One of the students opined that once they work as a team it may be difficult to forget one's contribution. Students therefore master concepts through their contribution and teaching each other. Hartman (2010:161) supports this view by noting that there are good reasons for the old saying which says that the best way to learn something is to teach it. CL provides situations for students to teach each other. When students explain and teach each other, retention of these concepts improves. Explaining also helps students connect their prior knowledge with new information.

#### **5.2.5 What can be done to improve cooperative learning strategies in pre-service secondary school teacher education?**

Poor grouping tends to result in poor CL efficiency. To facilitate cross pollination of ideas, grouping should ensure that it includes introvert versus extroverts, divergent versus convergent and syllabus bound versus syllabus free learners. Four or a quad is generally considered the ideal group number because this is large enough to contain students who will bring diverse opinions, experiences and learning styles to aid problem solving (Mills, 2002:6). Basing on that, institutions should come up with a benchmark of not more than six students in a group. This will enable all students to participate during

discussions. As stated by one of the students, all students should be given a turn to contribute during feedback on the allocated task they are to present.

One of the participants expressed the importance of teachers to monitor learners effectively rather than merely placing them in groups and telling them to work together as this does not ensure quality cooperation or learning (Baloche & Brody, 2017:276). Therefore, one needs to monitor and observe students, by helping them if needed (Atxurra, Villardon-Gallego & Calvevete, 2015:341). Chaos may erupt if students are not monitored. There is a likelihood that some may end up dominating as pointed out by one of the students. There is also a possibility that they might end up focusing on the issues they are not assigned.

To achieve optimum effectiveness of CL, individual accountability and positive interdependence are required. Roger and Johnson (2002:2) believe that students perceive that they can achieve their goals 'if' and only 'if' all members of their group also attain their goals, i.e., they sink or swim together. This is why the pre-service students were working collaboratively in manageable groups so that it would be easy for them to assist each other. They believed that their success or failure was associated with the team's determination. They were obliged by the team spirit to complement their efforts as a group to pass the assigned work. Students appreciate the effort of colleagues and perceive joint effort from group members as a reward for them all.

Results established that the teacher-pupil ratio is sometimes too high, especially in compulsory modules. This ought to be reduced to manageable groups for the convenience of lecturers. In concurrence, Ai-Yaseen (2014:96) asserts that a group size is an important factor when applying CL. A suggestion of an optimal size of four to five members was made. CL requires small groups that make it effective for every member to participate. These small groups enhance learning by all participants who then offer a communal support and celebrate their common achievement.

CL is peculiar in ensuring that students with individual differences can work harmoniously. One of the students noted that CL makes students with different backgrounds, race, colour and gender work together. In support of this view, Huang

(2000:257) claimed that CL encourages students from different backgrounds and abilities to discuss, debate, disagree, and ultimately teach one another. CL enhances students to jointly execute tasks that are beneficial to the whole group. Thus, Students from diverse cultures, with different experiences and learning modes get together to achieve success towards a common goal by assuming the responsibility of each other's learning (Gocer, 2010:443).

Collective engagement was noted as one of the ways in which current learning strategies in pre-service secondary school teacher education are supported more effectively through co-operative learning. Donald, Lazarus and Lowlana (2010:79) note that knowledge is not viewed as being given but as actively and continuously constructed and reconstructed by individuals and groups. This clearly outlines the collective engagement of group members to depend on each other's understanding to achieve a common goal (Tsay & Brady, 2010:79).

### **5.3 Recommendations based on the research findings**

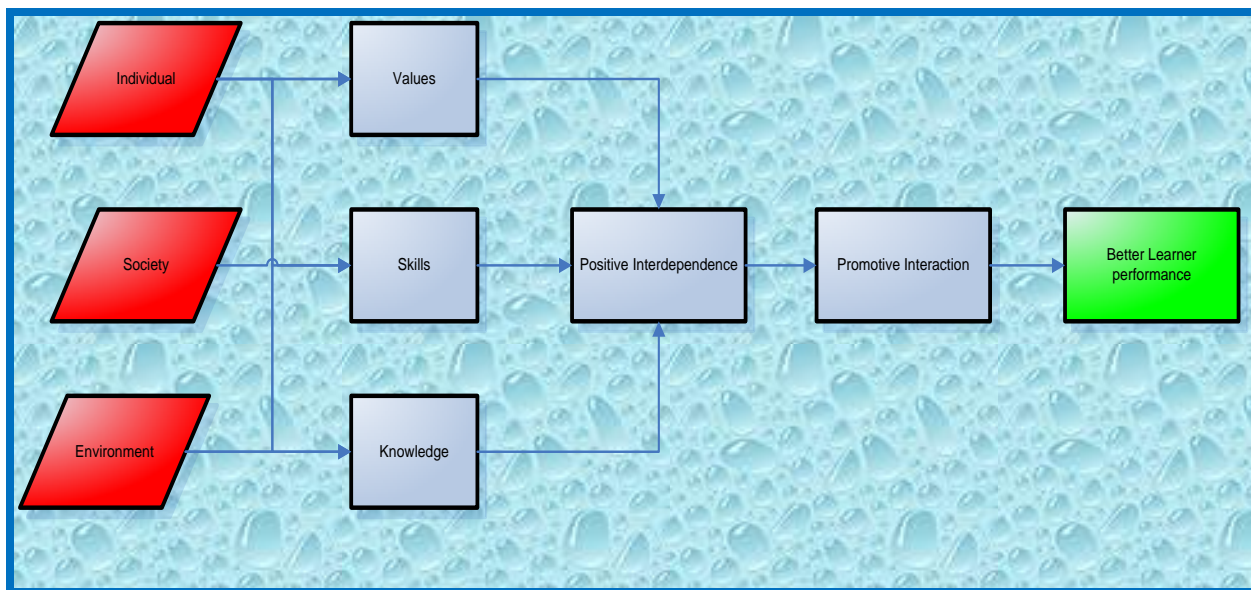
Following on from the discussion on the research findings of the present study, the following recommendations based on these research findings are made in relation to the following:

- Basing on the findings that some of the lecturers were unwittingly generalising the strategies, fears are that CL may not have been implemented appropriately. A recommendation is made to formalise CL approaches within the institutions to guide lecturers on proper implementation of CL.
- Zimbabwe Council for Higher Education (ZIMCHE) needs to re-evaluate the way it supervises institutions of higher education. ZIMCHE needs to come up with certain standards to guide the lecturers in the implementation of CL.
- The researcher recommends support of lecturers to enhance monitoring of the discussions.

- It is evident that the lecturer–student ratio was noted to be one as to two hundred. On the basis of this premise, the researcher therefore recommends that lecturer–student ratio should be reduced. A viable university class must comprise one hundred students. If the class exceeds one hundred then the institutions are encouraged to engage some part-timers or tutors.
- One of the students also highlighted that sometimes they are in groups of twenty; this makes it difficult for all students to participate during CL. Basing on this finding, the groups should be minimised to a maximum of ten students.
- From the findings, it has been noticed that some participants broadly and unwittingly generalized the strategies being used by teacher educators in pre-service secondary school teacher education. The erroneous operationalization of CL led to the poor coverage of other strategies widely known. The researcher therefore recommends that the quality control department should ensure that some CL strategies are implemented correctly.
- Some CL groups were formed by some ‘clicks’ leading to disruptions as some students ended up discussing tasks not assigned to them. It is imperative that when forming groups for the faculty wide modules lecturers should ensure that groups are composed of students from various subject areas to promote cross pollination of ideas.
- The research outcomes reflected that some lecturers do not monitor students as they work cooperatively. One of the respondents confessed that s/he did not supervise students during CL. It calls for lecturers to ensure that CL groups are monitored all the times to ensure that students remain focused.
- Lecturers should see to it that they assign students to groups rather than allowing students to choose their own colleagues. This should be done to ensure that all students will not feel neglected when they are not absorbed in some groups.

## 5.4 Proposed new theories

The researcher noted in methodology chapter that a grounded theory was adopted. From this basis, a grounded theory has the emphasis on generation of a theory which is grounded in the data (Tavakoli, 2012:247). To this effect the researcher proposed the ecological supportive learning and communalist enhanced learning theories. An ecological supportive learning theory is shown on the figure below.

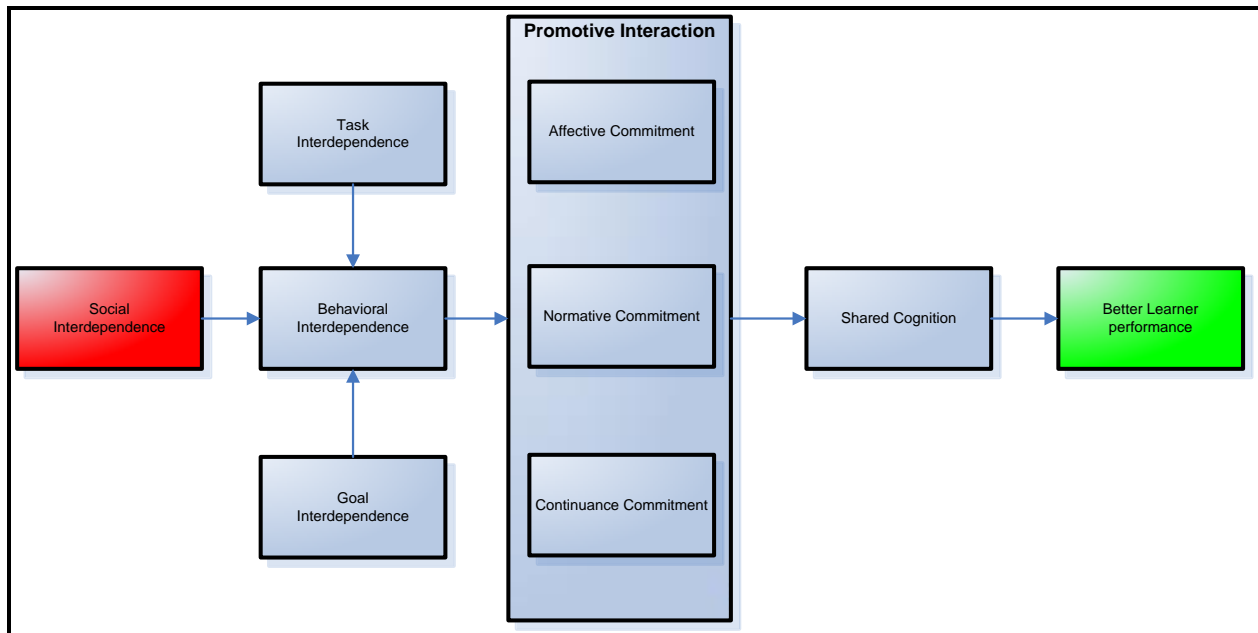


**Figure 5.1: Ecological Supportive Learning Theory.**

The ecological perspective learning results from synergetic transactions between the person and the environment (Kolb & Kolb, 2005:194). An ecological supportive learning theory therefore denotes that the individual, society and the environment influence an individual's learning. UNESCO (2004:40) asserts that teachers have a key role in creating a welcoming environment where they equally value each student in the classroom and promote mutual respect among members of the school community helping to overcome prejudice and discrimination. Providing a meaningful environment makes the individual feels to be part of the learning community. Students are thus able to create an environment conducive to learning. An individual is supposed to take an active role in the learning endeavours. As such, Hornby (2009:158) argues that an individual should work while encouraging each other in their efforts to complete the overall group role. For effective teaching and learning to take place, people need to work as a society. By working with other students, learners can evaluate their own

strengths and weaknesses utilising the diversity of the group to accomplish their mutual goal (Pujari & Rao, 2013:29). It is through teamwork that students will find the tasks manageable. From an ecological supportive learning perspective, for one to survive in a rapidly changing environment, the individual must be capable of changing him or herself according to the environmental needs for survival (Schur, Skuy, Zietsman & Frdjona, 2001:39).

The other proposed theory is the communalist enhanced learning anchored on social interdependence which promotes task, behavioural and goal interdependence. The figure below illustrates the communalist enhanced learning theory.



**Figure 5.2: Communalist Enhanced Learning.**

Given the fundamental role of curriculum change in facilitating excellence in education, the researcher proposes a communalist enhanced learning theory. This supports the provision of tutoring that is appropriate to the general CL of students. As students come from diverse backgrounds the 21<sup>st</sup> century learning proposes the necessity for the learning methods that are communalist enhanced. The emphasis on communalism in an African thought and experience requires education to pay attention to interpersonal and cooperative skills (Higgs, 2003:15). From a communalist enhanced learning



approach, teaching outlines the teachers' need to recognise and appreciate their students' various principles and societies. Learning thus involves the mindful and effortful involvement of students in the individual and social processes of knowledge and skills acquisition through interaction with the environment (Alberta Education, 2016:4). This allows children to develop positive attitudes towards people from other cultures (Tarman & Tarman, 2011:580). Positive attitude is developed through social interdependence.

Through goal interdependence, learners strive to achieve the goals by depending on their colleagues. Accordingly, each member of a team is responsible not only for learning what is taught but also for helping team mates learn, thus creating an atmosphere of achievement (Tsay & Brady, 2010:2). Behavioural interdependence denotes the communal influence which individuals have collectively interlinked in their existence and their day-to-day events. Interdependence remains indispensable as people cannot live in separation. An individual therefore seeks an outcome that is beneficial to the self and those cooperatively linked with (Johnson & Johnson, 2014:841). This facilitates task interdependence which is the degree to which a task involves the collaboration of all team members. Task interdependence demands considerable cooperation among group members to accomplish activities (Bachrach, Powell, Collins & Richey, 2006:1397). Individuals easily reach a consensus when dealing with the tasks allocated to them as they work as a team. Team members work with a sense of interdependence, share expertise and responsibility for the execution of a given task (D'Silva, Ortegal & Sulaiman, 2016:96). Their obligation is to work towards a collective aim to attain the assigned task.

## **5.5 Summary**

The study investigated the use of cooperative learning strategies in pre-service secondary school teacher education at two state universities in Zimbabwe. The synopsis of the chapters highlights the prominent issues in the study.

### **5.5.1 Chapter 1**

The chapter outlined the context of the study focusing on background of the study, statement of the problem and significance of the study. The research objectives and

research questions were outlined. Definitions of terms used in the study were also given in this chapter. Literature submits that strengthening pre-service teacher training effectively addresses the constantly changing needs of the curriculum, learners and school communities (UNESCO 2011:14). The background to the study also established that CL has been used effectively at the elementary and secondary levels but has only recently found its way to the college level (Bulut 2009:23). CL teaching should enhance the acquisition of knowledge rather than transmitting it. This has prompted the researcher to critically investigate the use of CL strategies in pre-service teacher education at MSU and GZU because they are largely responsible for developing most educators in Zimbabwe at higher levels.

## **5.5.2 Chapter 2**

The theoretical framework guiding the study was delineated. The study was informed by the works of Levi Vygotsky, Reuven Feuerstein and the *ubuntu* philosophy. Vygotsky highlights that learners acquire knowledge through interaction and collaboration with peers and people in their environment (Criticos, Long, Mays, Moletsane, Mityane, Grosser & DeJager, 2012). Teamwork among pre-service students instils the spirit of working towards achieving a common goal. Reuven Feuerstein (1990)'s notion of a learner is anchored on the phenomenon of mediated learning experience (MLE). Mediated learning is the process of learning which occurs when another person serves as a mediator between the child and the environment, for example parents, teachers and more competent peers. Issues such as respect, tolerance, celebrating each other's differences are all implied in this important aspect of mediation and cultural transmission (Nyborg, 2011:101). Mandova and Chingombe, (2013:100) identify *ubuntu* as a fecund source offering assistance and foundation to social activities like CL and they contend that *ubuntu* is a social philosophy which embodies virtues that celebrate the mutual social responsibility, mutual assistance, trust, sharing, unselfishness, self-reliance, caring and respect for others, among other ethical values. Higgs (2003: 13) argues that the underlying concern of *ubuntu* acknowledges that to be humane is to affirm one's humanity by recognising the humanity of others. One can recognise the existence of others through CL.

### **5.5.3 Chapter 3**

The chapter focused on the research approach, research design, population, sample and research instruments used to solicit data from participants. A qualitative approach was adopted as it seeks to discover through narrative reporting and describe what particular people do or experience in their day to day lives (Denzin & Lincoln, 2011:43). A phenomenological research design which describes the lived experiences about a phenomenon as described by participants was adopted as it is noble to critically analyse the use of CL strategies to pre-service teacher education in Zimbabwe (Creswell, 2014:242). The study was carried out at Great Zimbabwe University and Midlands State University.

Interpretivist and the grounded theory were the paradigms used in this study. The interpretive paradigm emphasizes the importance of examining the world from the participants' point of view (Tracy, 2013:41). It was adopted as the study sought to understand the experiences of students and lecturers. The study thus situates itself within an interpretive paradigm. The study also adopted grounded theory which emphasises on the generation of a theory which is grounded in the data (Tavakoli, 2012:247). To this effect, the research generated two theories based on the data to be collected from the participants. The research instruments used to generate data included questionnaires, in-depth one-to-one interviews and FGDs. The target population comprised Bachelor of Education students at GZU and MSU. The target population comprised Bachelor of Education students at the two institutions.

Permission was sought from the University of Kwazulu Natal, College of Education and Ethics Committee. To carry out the study, the researcher applied for clearance from the Registrars of Great Zimbabwe and Midlands State universities. The participants were assured of their anonymity in the research report. They signed consent forms and were informed that their involvement in the study was voluntary. Further permission was sought from the Ministry of Higher and Tertiary Education, Science and Technology Department

#### **5.5.4 Chapter 4**

In this chapter, the findings were done addressing the research questions. Vignettes and computational Nvivo were used to analyse the data collected from research participants. Collection of themes indicated that cooperative games, group assignments, group discussions, group exercises, group presentations, group work, interview teaching, jigsaw, numbered heads together, role playing, round robin, STAD, student-to-student teaching, think-pair-share as well as the write around approach. The participants failed to appreciate the difference between roles of group work as the medium or tool for CL and the specific strategies, a clear indication of the poor understanding of the concept of CL. Findings revealed significance of CL as it aids in conflict resolution, enhances social skills, promotes teamwork, motivates students and reduces discrimination. CL was also noted to promote critical thinking, making learning enjoyable, creating team culture and inculcating responsibility.

#### **5.5.5 Chapter 5**

In this chapter, the research findings were discussed in relation to the literature that was guided by Vygotsky, Feuerstein and *ubuntu*. The synopses of findings are outlined below:

Based on the research findings, all participants agreed that they use CL. However, it is evident that the majority of participants broadly and unwittingly generalized the strategies being used by teacher educators in pre-service secondary school teacher education as largely and/or invariably group work.

Findings have also revealed that CL groups in Zimbabwean universities are either non-scientific, or non-standardised. One of the lecturers confessed that s/he could not monitor what students were doing per se because she usually tasked CL as homework. To this effect, there is need to ensure that lecturers should ensure that monitoring is done even after the lectures.

In implementing CL as a modern-day pedagogy, one of its significant shortcomings affecting its efficacy was the lack of clear standard guidelines on the grouping criteria. In cooperative learning there is too much involvement of each student in discussing

materials, and helping or sharing material with each other (Atta, Jamil, Kundi & Siddique, 2013:87).

Poor grouping tends to result in poor CL efficiency. Grouping should ensure that it includes introvert versus extroverts, divergent versus convergent and syllabus bound versus syllabus free learners to facilitate cross pollination of ideas. The ideal group of CL is a quad as it is generally considered large enough to contain students who bring diverse opinions, different experiences and learning styles to aid problem solving (Mills, 2002:6).

One of the participants indicated that monitoring was not effectively done. However, it is very important that teachers monitor students effectively as merely placing them in groups and telling them to work together does not ensure quality cooperation or learning (Baloche & Brody, 2017:276).

To achieve optimum efficacy of CL, individual accountability and positive interdependence are required. Roger and Johnson (2002:2) believe that students perceive that they can achieve their goals if, and only if, all members of their group also attain their goals, i.e., they sink or swim together. Results established that the teacher-pupil ratio is sometimes too high, especially for compulsory modules. This could be reduced to manageable groups so that it would be easy for lecturers to manage. As Ai-Yaseen (2014:96) contends, group size is an important factor when applying CL.

Collective engagement was noted as one of the ways in which current learning strategies in pre-service secondary school teacher education are supported more effectively through co-operative learning. Donald, Lazarus and Lowlana (2010:79) note that knowledge is not viewed as being given but as actively and continuously constructed and reconstructed by individuals and groups.

Findings also revealed that CL creates a teamwork culture. As an educational technique, CL provides a vehicle to attain a sense of community.

It was also noted that that CL eliminates the spirit of individualism through inculcating *ubuntu* in students. Individualism is perpetuated through teachings which emphasize the

individual separateness from other members of the community (Hapanyengwi-Chemhuru & Makuvaza, 2014:3). Such an individual is not concerned about what happens to the next person. However, the development of cooperative skills in younger people, as Higgs (2003:15) opines, could play a crucial role in promoting and sustaining the sort of communal interdependence and concern with the welfare of others that is encouraged by “*ubuntu*”.

Research outcomes also revealed that CL reduces discrimination among the students. This is achieved by nurturing understanding and acceptance among members, as well as successful communication, so that they develop of a sense of belonging to the class by creating good relationship among the peers ( Alenka 2015:137 ).

Furthermore, research findings also revealed that CL motivates students to learn. When students are motivated they realise that working together allows them to achieve more than on their own would (Alenka, 2015:135)

CL instils a sense of belonging to learners. According to Kolb and Kolb (2005:41), one of the major components of CL is creating a sense that teachers and students are respected and valued as individuals in the school community. Findings also revealed that one of the important issues in CL in any field of education is the development of critical thinking skills (Dabaghmanesh & Soori, 2014:286).

Finally, findings in this study revealed that CL perpetuates social skills. Social skills are necessary for the success of cooperative group (Psicodidactica, 2015:341). Akthar et al. (2012:141) agrees that CL approaches take advantage of creating a bond among learners which can lead to increased understanding and acceptance of all members of society.

## **5.6 Conclusion**

This study investigated the use of CL to pre-service teacher education at MSU and GZU, two of the nine state universities in Zimbabwe. The theories by Vygotsky, Feuerstein’s ML and that of *ubuntu* guided the study. It was established in the study that both teachers and students were not clearly aware of the CL strategies. Collection of the themes indicated that cooperative games, group assignments, group discussions,

group exercises, group presentations, group work, interview teaching, jigsaw, numbered heads together, role playing, round robin, STAD, student-to-student teaching and the think-pair-share, as well as the write around approach were noted to be CL strategies. It was noted that CL groups in Zimbabwean universities are either non-scientific, or non-standardised. CL strategies are instructionally important for pre-service secondary teacher education since students from diverse background and cultures have the opportunity to form communal associations. Poor grouping tends to result in poor efficacy of CL. A recommendation is made to formalise CL approaches within institutions to guide lecturers on proper implementation of CL. The researcher recommends that lecturer–student ratio should be reduced with a viable class to comprise a maximum of one hundred students. The researcher proposed the ecological supportive learning and communalist enhanced learning theories. An ecological supportive learning theory denotes that an individual, society and the environment influence learning. A communalist enhanced learning approach outlined the teachers' need to recognise and appreciate their students' various principles and societies.

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## APPENDICES

### Appendix 1: Ethical clearance



UNIVERSITY OF  
KWAZULU-NATAL  
INYUVESI  
YAKWAZULU-NATAL

21 November 2016

Mrs Shamiso Iline Chingombe  
213574352 School of  
Education  
Edgewood Campus

Dear Mrs Chingombe

Protocol Reference Number: HSS/1975/016D

Project title: Exploring the use of co-operatives learning strategies in Midlands and Great Zimbabwe universities, Zimbabwe

**Full Approval - Expedited  
Application**

In response to your application received 11 November 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

**PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.**

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Sh

enuka Singh (Chair)

Humanities & Social Sciences Research Ethics Committee

cc Supervisor: Professor Phillip Higgs

cc. Academic Leader Research: Dr

SB Khoza cc. School

Administrator: Ms Tyzer Khumalo



---

**Humanities & Social Sciences Research**

Ethics Committee Dr Shenuka Singh (Chair)

**Westville Campus, Govan Mbeki Building**

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 facsimile: +27 (0) 31 260 4609 Email: [ximbaDfB>uMIJ.ac.za](mailto:ximbaDfB>uMIJ.ac.za) / [snvñjanm@ukrILac.za](mailto:snvñjanm@ukrILac.za) / [mohunD.ukzn.ac.za](mailto:mohunD.ukzn.ac.za)

Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)

**1914 • 20J0**

**100 YMR5 OF AçABEgIC EXKLLENCE**

Founding Campuses:  **Edgewood**  **Howard College**  **Medical School**  **Pietermaritzburg**  **Westville**

## Appendix 2: Focus Group Questions for Students

### FOCUS GROUP QUESTIONS FOR STUDENTS

Welcoming remarks by the researcher as the facilitator.

The atmosphere in this session is expected to be a relaxed one for all participants. You are required to sit in a horse shoe format as we are equals. This session will last for thirty to forty minutes. You are expected to give your views freely on how the co-operative learning is being used at your institution. The diversity of your views is going to be respected. The data generated is going to be kept confidential.

#### **Session guidelines**

The following are the suggested guidelines to use to assist the researcher in establishing the group norms:

- One person should talk at a time.
- Respect the confidentiality ethic, that is, the information we share in this group should not be disclosed to anyone at all costs.
- Be at liberty to share your individual views as there are no specific responses required.
- The responses are going to be recorded.
- Participation is voluntary.
- You are at liberty to withdraw if you wish to do so.

#### **What co-operative learning strategies do teacher educators in pre-service secondary school teacher education use in their teaching?**

- 1) Which co-operative learning strategies are used by your lecturers in their teaching?

#### **How do teacher educators in pre-service secondary school teacher education use co-operative learning strategies?**

- 2) How do your lecturers at MSU and GZU use co-operative learning strategies in their teaching?

#### **What can be done to improve co-operative learning strategies in pre-service secondary school teacher education?**

- 3) What can be done to improve co-operative learning strategies in your pre-service teacher education at your university?
- 4) Do CL strategies promote effective teaching and learning?

**How can current learning strategies in pre-service secondary school teacher education be supported more effectively through co-operative learning?**

- 5) What effect does co-operative learning have on your studies?

**What can be done to improve co-operative learning strategies in pre-service secondary school teacher education?**

- 6) What can be done to encourage co-operative learning among students?
- 7) How efficiently do you utilize the time assigned for co-operative learning activities?
- 8) What are the benefits of co-operative learning?

## Appendix 3: Questionnaire for Students

### QUESTIONNAIRE FOR STUDENTS

My name is Chingombe Shamiso Iline. I work at GZU as an Educational Psychology lecturer. I am carrying out a study entitled, 'The use of co-operative learning strategies in pre-service secondary school teacher education in Midlands and Great Zimbabwe universities: A critical investigation'. I am a doctoral student with the University of Kwazulu Natal. I hereby request for your permission to participate in this study. Your confidentiality is going to be guaranteed. Please do not write your real names, instead you can use pseudonyms in this study. The results for this study are going to be published. The data generated is going to be destroyed after the completion of the study. There are no financial or material gains for participants in this study. You are advised that you are at liberty to withdraw from the study if you wish to do so.

#### **What co-operative learning strategies do teacher educators in pre-service secondary school teacher education use in their teaching?**

- 1) Do your lecturers use co-operative learning strategies?

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.....

- 2) What co-operative learning strategies do teacher educators in pre-service secondary school teacher education use in their teaching at MSU or GZU?

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.....  
.....

#### **How do teacher educators in pre-service secondary school teacher education use co-operative learning strategies?**

- 3) How do teacher educators in pre-service secondary school teacher education at MSU or GZU use co-operative learning strategies?

.....  
.....  
.....  
.....

- 4) How can your lecturer in their teaching promote more active student participation during cooperative learning sessions?

.....  
.....  
.....  
.....

**How can current learning strategies in pre-service secondary school teacher education be supported more effectively through co-operative learning?**

- 5) How can current learning strategies in pre-service secondary school teacher education at MSU or GZU be supported more effectively through co-operative learning?

.....  
.....  
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.....

- 6) Do your lecturers value your views and opinions?

.....  
.....  
.....  
.....

- 7) Do your lecturers assist you during co-operative learning sessions?

.....  
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.....  
.....

**Why are co-operative learning strategies instructionally important for pre-service secondary school teacher education?**

8) Why are co-operative learning strategies instructionally important for pre-service secondary school teacher education at MSU or GZU?

.....

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9) What are the benefits of cooperative learning?

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**What can be done to improve co-operative learning strategies in pre-service secondary school teacher education?**

10)What can be done to improve co-operative learning strategies in pre-service secondary school teacher education at MSU or GZU?

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11)What should be done by your colleagues to promote effective co-operative learning?

.....

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.....

.....

12)What do you think has to be done to promote effective co-operative learning?

.....

.....

.....

.....

## Appendix 4: Interview Guide for Lecturers

### INTERVIEW GUIDE FOR LECTURERS

My name is Chingombe Shamiso Iline. I work at GZU as an Educational Psychology lecturer. I am carrying out a study entitled, 'The use of co-operative learning strategies in pre-service secondary school teacher education in Midlands and Great Zimbabwe universities: A critical investigation'. I am a doctoral student with the University of Kwazulu Natal. I hereby ask for your permission to participate in this study. Your confidentiality is going to be guaranteed. Our interview is going to last for thirty minutes. There are no financial or material gains for participants in this study.

**What co-operative learning strategies do teacher educators in pre-service secondary school teacher education use in their teaching and learning?**

- 1) Do you use CL strategies?
- 2) What CL strategies do you use?

**How do teacher educators in pre-service secondary school teacher education use co-operative learning strategies?**

- 3) How do you use co-operative learning strategies?
- 4) Do you monitor your students during co-operative learning sessions?

**How can current learning strategies in pre-service secondary school teacher education be supported more effectively through co-operative learning?**

- 5) How can you effectively support current learning strategies in pre-service secondary school teacher education?
- 6) What do you do when some students do not become involved in a co-operative learning session?

**Why are co-operative learning strategies instructionally important to pre-service secondary school teacher education?**

- 7) Why are co-operative learning strategies instructionally significant to pre-service teacher education at MSU or GZU?

**What can be done to improve co-operative learning strategies in pre-service secondary school teacher education?**

- 8) What can you do to improve co-operative learning strategies among the students?

## Appendix 5: Application to GZU Registrar to Conduct Research

Great Zimbabwe University  
Box 1235  
Masvingo

15 September 2015

The Registrar  
Great Zimbabwe University  
Box 1235  
Masvingo

Dear Sir /Madam

---

**REF: APPLICATION TO CONDUCT A RESEARCH ON EXPLORING  
THE USE OF CO-OPERATIVE LEARNING TO PRE-SERVICE  
TEACHER EDUCATION IN ZIMBABWE**

---

I hereby apply for permission to conduct a research on exploring the use of co-operative learning to pre-service teacher education in Zimbabwe at your institution. I am a lecturer at Great Zimbabwe University currently pursuing my PHD studies with the University of Kwazulu Natal. The data to be collected is going to be used for academic purposes only.

Yours faithfully

-----

Chingombe Shamiso Iline



## Appendix 6: Approval Letter from GZU



**Registrar**  
**P O Box 1235**  
**MASVINGO**  
Tel: 039-252100  
Fax: 039-252100

*Off Old Great Zimbabwe Road*  
**MASVINGO**  
E mail: registrar@gzu.ac.zw

---

### GREAT ZIMBABWE UNIVERSITY

---

17 September 2015

Mrs S.I. Chingombe  
Great Zimbabwe University  
P.O. Box 1235  
**MASVINGO**

Dear Mrs Chingombe

#### **REQUEST FOR PERMISSION TO CONDUCT RESEARCH WITH GREAT ZIMBABWE UNIVERSITY**

The above matter refers.

This is to confirm that your request has been approved, but please note that we would request a copy of your findings too.

Wishing you good luck in your studies.

Sincerely

A handwritten signature in blue ink, appearing to be 'S. Gwatidzo'.

**S. Gwatidzo (Mrs)**  
**REGISTRAR**



## Appendix 7: Application to MSU Registrar to Conduct Research

GZU  
Box 1235  
Masvingo

15 September 2015

The Registrar  
Midlands State  
P. Bag 9055  
Senga  
Gweru

Dear Sir /Madam

---

**REF: APPLICATION TO CONDUCT A RESEARCH ENTITLED: EXPLORING THE  
USE OF CO-OPERATIVE LEARNING TO PRE-SERVICE TEACHER EDUCATION  
IN ZIMBABWE**

---

I hereby apply for permission to conduct a research on the aforementioned topic. I am a lecturer at GZU currently pursuing my PhD studies with the University of Kwazulu Natal. The data to be collected is going to be used for academic purposes only.

Yours faithfully

-----

Chingombe Shamiso Iline

## Appendix 8: Approval Letter from MSU

Great Zimbabwe University  
Box 1235  
Masvingo

15 September 2015

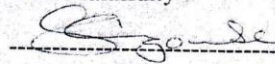
The Registrar  
Midlands State  
P.Bag 9055  
Senga  
Gweru

Dear Sir /Madam

**REF: APPLICATION TO CONDUCT A RESEARCH ON EXPLORING  
THE USE OF CO-OPERATIVE LEARNING TO PRE-SERVICE  
TEACHER EDUCATION IN ZIMBABWE**

I hereby apply for permission to conduct a research on exploring the use of co-operative learning to pre-service teacher education in Zimbabwe at your institution. I am a lecturer at Great Zimbabwe University currently pursuing my PHD studies with the University of Kwazulu Natal. The data to be collected is going to be used for academic purposes only.

Yours faithfully



Chingombe Shamiso Iline

Approved  
  
18/09/15

## Appendix 9: Application to Ministry of Higher and Tertiary, Science and Technology Development to Conduct Research

Great Zimbabwe University  
Box 1235  
Masvingo

14 August 2015

The Permanent Secretary  
Ministry of Higher and Tertiary, Science and Technology Development  
P. Bag CY 7732  
Causeway  
Harare

Dear Sir / Madam

---

**RE: APPLICATION FOR PERMISSION TO CONDUCT AN EDUCATIONAL RESEARCH AT GZU AND MSU.**

---

I hereby seek for permission to conduct an educational research entitled: **Exploring the teacher educators' use of co-operative learning to pre-service secondary school teacher education in Zimbabwe.** I am a PhD student with the University of Kwazulu Natal. Currently, I am lecturing at GZU. I intend to collect data from the aforementioned two state universities. The information gathered will be used for academic purposes only and will be treated with strict confidence.

Thanking you in advance for your co –operation.

Yours faithfully

Chingombe Shamiso Iline

## Appendix 10: Approval Letter from Ministry of Higher and Tertiary, Science and Technology Development

All official communications should be addressed to:  
"The Secretary for Higher & Tertiary Education  
Telephones: 795891-5, 796441-9, 730055-9  
Fax Numbers: 792109, 728730, 703957  
E-mail: [thesecretary@mhet.ac.zw](mailto:thesecretary@mhet.ac.zw)  
Telegraphic address: "EDUCATION"



Reference:

MINISTRY OF HIGHER AND TERTIARY  
EDUCATION, SCIENCE AND  
TECHNOLOGY DEVELOPMENT  
P. BAG CY 7732  
CAUSEWAY

31 August 2015

Great Zimbabwe University  
Box 1235  
**Masvingo**

Dear Mrs Chingombe,

---

**RE: APPLICATION FOR PERMISSION TO CONDUCT RESEARCH ON  
"EXPLORING THE USE OF CO-OPERATIVE LEARNING IN PRE-SERVICE  
TEACHER EDUCATION ZIMBABWE".**

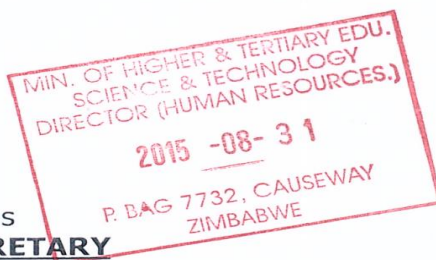
---

Reference is made to your letter, in which you requested for permission to carry out a research on **"Exploring the use of Co-Operative Learning in Pre-Service Teacher Education in Zimbabwe"**.

Accordingly please be advised that the Head of Ministry has granted permission for you to carry out the research ***at Zimbabwe Council for Higher Education (ZIMCHE) and from selected established universities.***

It is hoped that your research will benefit the Ministry and, it would be appreciated if you could supply the office of the Permanent Secretary with a final copy of your study, as the findings would be relevant to the Ministry's strategic planning process.

  
Mudyiwa L. (Mr)  
Director-Human Resources  
**For: PERMANENT SECRETARY**



## Appendix 11: Consent Form for Lecturers

### CONSENT FORM FOR LECTURERS

GZU

Box 1235

Masvingo

Zimbabwe

Dear Participant (educator)

#### INFORMED CONSENT LETTER

I am Chingombe Shamiso Iline a PhD student with the University of KwaZulu-Natal, Edgewood campus, Pinetown, South Africa. I am conducting a study entitled: Exploring the use of cooperative learning in pre-service teacher education in Midlands and Great Zimbabwe universities, Zimbabwe. Learning in the 21<sup>st</sup> century advocates for learning that permits teachers in training to participate actively in their learning rather than them as passive recipients of teacher transmitted knowledge. However, it seems as if it is being implemented to a lesser extent in teacher education. This has prompted me to explore the teacher educators' use of co-operative learning strategies with pre-service secondary school teachers in Zimbabwe. I am kindly requesting you to answer some questions based on your experiences with the lecturing endeavours and you experience with the pre-service students.

Please note that:

- Your confidentiality is guaranteed as the data collected from your will use some pseudonyms in the data analysis section
- The face to face interview will last for a period of thirty (30) minutes.
- The data collected will not be used against the institutions or yourselves, it will be used for academic purposes **ONLY**.
- Your participation will not guarantee you any benefit from the study.
- Data will be stored in secure storage and destroyed after 5 years.
- You are at liberty to be part of this study and you have the freedom to withdraw when you feel you wish to do so
- Pseudo names will be used in this study.
- This study aims to explore how are involved in the use of cooperative learning with the pre-service students.

The following work plan will be used to complete this research project:

Equipment	Willing	Not Willing
Tape recorder		
Photographic (camera)		
Video		



I can be contacted at:

Cell: 0772943879/ 0714156304

Email: [schingombe21@gmail.com](mailto:schingombe21@gmail.com)

My supervisor is Prof. Phillip Higgs of the School of Education, Edgewood campus of the University of KwaZulu-Natal.

Contact details: email: [higgsp1@unisa.ac.za](mailto:higgsp1@unisa.ac.za)

Edgewood College, University of KwaZulu-Natal

(Tel) 0829207014

Thank you for your contribution to this research.

#### DECLARATION

I..... (Full names of Participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participate in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I desire.

.....  
SIGNATURE OF PARTICIPANT

.....  
DATE

## Appendix 12: Consent Form for Students

### CONSENT FORM FOR STUDENTS

GZU

Box 1235

Masvingo

Zimbabwe

Dear Participant (students)

#### INFORMED CONSENT LETTER

I am Chingombe Shamiso Iline a PHD student with the University of KwaZulu-Natal, Edgewood campus, Pinetown, South Africa. I am conducting a study entitled: Exploring the use of cooperative learning in pre-service teacher education in Midlands and Great Zimbabwe universities, Zimbabwe. Learning in the 21<sup>st</sup> century advocates for learning that permits students to participate actively in their learning rather than them as passive recipients of lecturer transmitted knowledge. This has prompted me to explore the teacher educators' use of co-operative learning strategies with pre-service secondary school teachers in Zimbabwe. I am kindly requesting you to answer some questions based on how you are engaged in cooperative learning.

Please note that:

- Your confidentiality is guaranteed as the data collected from your will be allocated some pseudonyms in the data analysis section
- The FGDs will last for a period of one hour.
- The data collected will not be used against the institutions or yourselves, it will be used for academic purposes **ONLY**.
- Your participation will not guarantee you any benefit from the study.
- You are at liberty to be part of this study and you have the freedom to withdraw when you feel you wish to do so
- Pseudo names will be used in this study.
- This study aims to explore how you are involved in the use of cooperative learning with the pre-service students.

I can be contacted at:

Cell: 0772943879/ 0714156304

Email: [schingombe21@gmail.com](mailto:schingombe21@gmail.com)

My supervisor is Prof Phillip Higgs of the School of Education, Edgewood campus of the University of KwaZulu-Natal.

Contact details: email: [higgsp1@unisa.ac.za](mailto:higgsp1@unisa.ac.za)

Edgewood College, University of KwaZulu-Natal



(Tel) 0829207014

Thank you for your contribution to this research.

#### **DECLARATION**

I..... (Full names of Participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participate in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I desire.

.....  
SIGNATURE OF PARTICIPANT

.....  
DATE

## Appendix 13: Transcription of Group Discussion

### TRANSCRIPTION OF GROUP DISCUSSION 1

#### Group Sample: 3 Female Students and 2 Male Students

I – Interviewer; A – Participant 1; B – Participant 2; C – Participant 3; D – Participant 4; E – Participant 5

**I: Well, my name is Chingombe Shamiso. I am a PhD student with the University of KwaZulu Natal. I want to collect data from you for the purpose of my completion of the thesis. You are free to withdraw if you wish to do so. Right, my first question is, do your lecturers use CL in the lectures?**

A: Yes.

B: Yes. They use CL during... they use presentations as a way of cooperative learning, where students they come together, they give their ideas and they come up with one product which they will present before people. So, I think, yeah, they use it.

**I: Okay. How do your lecturers use cooperative learning?**

B: Through presentations.

**I: Group presentations?**

B: Yes.

A: Mmm-hmm. And group assignments, those write-ups. They... Okay, I'm saying like, those group assignments, those write-ups. Other than just presentations. They are part of the CL process.

**I: What do you mean by 'those write-ups'?**

A: Like, you will be given a question that you have to write as a group. Like, you meet up as a group, then you react to the question as a group.

C: And also, in some instances, the lecturer during the lecture period, he might ask you to sit in groups of about ten or twenty, for example in History. We were told to sit in groups of twenty, and then discuss on a certain topic, then present it to the whole group. I think that's cooperative learning, since in our – in our class we are around two hundred. So, ten, I think it's a small group. That's cooperative learning.

**I: What do you think can be done to improve the cooperative learning strategies at your university?**

D: Okay, I think to improve cooperative learning, the lecturers must – must allow us to choose our... our peers who we will work the presentation with. Unlike what was done in Media mostly, the lecturer chose the people and then said to them that you are going to do that question. We have differences, we have different – different norms, values, different views. So, to... to enhance CLI think we should choose ourselves. Because we know each other well and we can work together well.

- B: In another aspect, I think lecturers they must give students more time, since CL is time-consuming. So, students they must be given time to come together, to organize so that they can come up with something which is good.
- E: In addition, I think the groups must be mid-sized. I think, for example, let's say a group should be not more than ten students. I think, can promote more cooperative learning.
- C: And also, the other thing, I think the lecturer should be there to assist us. For example, he should evaluate us as learners. For example, when presenting I think the lecturers should allow each and every member of the group to say something during the presentation. Unlike for him to say, 'Ah, one person, can you just read through the presentation' or 'One person, can you present for the whole group.' I think the lecturer should evaluate each and every member, should allow each and every member to say something during the presentation so that he may be able to know, so-and-so participated in the group research. Unlike for him to just say, 'One person to present for the group' or 'Two people to present for the group'. I think each and every individual should be allowed to present, as a way of evaluating.

**I: Okay. Do cooperative learning strategies promote effective teaching and learning? Do you benefit from cooperative learning?**

Several participants at once: Yes.

- D: Yes, we do. Because as a group, everyone has different ideas, we use different sources, the way we... the way we understand the aspect might be different. So if we bring all our minds together it helps.
- A: I think cooperative learning, like, it makes – it makes every individual who is part of the learning process to be active in whatever is taking place. Like, to be actively participating in the learning process.
- C: Uhh, I think the other thing is with cooperative learning... As for me, I'm benefitting both on the social life and then on the education aspect. In the sense that, I was self-centred from the beginning. I couldn't work with other people. But then if you are tasked to work as a group, I am forced to. And at the midst, umm, I developed those social skills. Now I know – I now trust others. And, say that if we give Gordon the assignment to type for us, he is going to do justice – he is going to do justice to all our points. So, I think it also - it's also helping.

And also the other aspect is, as for me, I'm an oral learner. As in, I'm an audio learner. I don't learn through visuals and stuff. I need someone to explain something for me. If the teacher fails to explain – 'cause in some instances the lecturer may just send the notes through the email, or give us a hard copy of the notes, right? But then if I am involved in a group, if I become part of the group, someone is going to... It's obvious, someone is going to explain some of the aspects to me. Then I benefit. So, I think they are helpful to us.

- E: Umm, to add. Me as a field-dependent learner, I can rely on my peers. I can understand better facts as they are explained by my peers.

**I: So, you trust your peers more than the lecturer?**

[Participants laugh]

- E: Yes.
- A: Sometimes there are things like even the language that can be – that cannot be used on the lecturer. Like, some of the things that you can even – you cannot ask the lecturer, that may be helping you to understand whatever the concept you will be talking about. So, like, when I am talking to Knowledge, there are some grey areas that I may fail to tell you, but I will be able to tell to Knowledge because he is a peer, and he is someone who is in the realm of my... Like, I can easily, umm, say anything with any language so that we get to the end with the problem that we will be facing.
- C: In other words, cooperative learning, I think it lessens the workload on me. If I'm given an assignment, right, to type on my own, umm, lets it's due on Friday and it's on a Tuesday. I think the workload will be too heavy on me. But then if it's a group, we may give each other – for example if we do, with us as a group, we give each and every one of us two or three points, so that she goes and writes them on herself, then comes back with the group and explains them to us. Then we put them together. I think it lessens the workload for me as an individual. So, I think CL is very helpful, and it's applicable in teaching and learning.
- B: And another aspect is on the issue of anxiety. When I'm working with my peers I can feel comfortable. Than when the lecturer is asking me questions, sometimes I'll be shivering.
- [Participants laugh]
- So, I think these cooperative...
- D: Sometimes she forces us to speak in English, because she'll be saying 'There are foreigners in here'. And when I'm with him, we can use our language, our home language.
- B: So, I think yeah, we are benefitting a lot.
- D: Yeah.
- I: **So, what can be done to encourage cooperative learning among students?**
- C: I think to encourage cooperative learning among students, according to my own perspective, I think each and every lecturer should give us time as individuals, right, to work together, and then tell us to present... As in, work on a certain concept together as a group, right, then each and every person who is in that group should say something that was said by someone, not her own views. I think that will also encourage us to work cooperatively. Because if I'm asked to say what I know, I will say exactly what I know. But if you say, 'Audrey write your own point, right, and then give it to Tino so that she can explain', I think it might benefit us as a group.
- I: **Okay.**
- A: I think on that aspect it's like, about the tasks that we are given as students, right. The lecturer should give us tasks in a way that we are demanded to respond to the questions, react to the questions, write questions, in groups or teams. So that we do it in that way that suits to the requirements of cooperative learning. That's what I think.

- E: As for me I didn't understand the question. You can say the question again?
- I: **I said, what can be done to encourage CL amongst you?**
- A: Okay. Like, when you are given questions and presentations that you have to do as groups, to work in teams, like, you have individual tasks, right? You have to do them. But there are tasks that should be done in teams. Like those group presentations, those group assignments. I think that's a pre-requisite when it comes to the cooperative learning process.
- I: **How effectively do you utilize the time assigned for cooperative learning?**  
[Participants laugh]
- B: Can you come again on that question? Can you come again?
- I: **How efficiently do you utilize the time assigned for CL activities?**
- D: [laughs] honestly, honestly, we don't use it effectively. Especially when I do a group presentation with my friend, let's say Tino for example. If we see something or someone, we might gossip and forget that we are doing a presentation. [Laughter] And later on we realise that we haven't done anything. So, I will say, 'Go do this, I will go do that, and then we will mix things'. So, I think it is not that effective...
- C: We don't use the time effectively.
- D: We don't use the time effectively. Maybe it might be used effectively when you – when the lecturer chooses these people: 'You work with you.' Because we don't have something in common, we are not familiar with each other. Maybe that way, it will be effective.
- A: Yeah, like, personally I would say we don't really effectively use the time. Like, if you heard her when she was saying what she was saying, she mentioned a word '*dololo*'. When we are doing our discussions and whatever we will be doing as we are responding to the tasks that we have, we might get carried away with the '*dololo*' word. Then we start talking about the thing. And we –
- I: **What's '*dololo*'?**  
[Participants laugh]
- D: It actually means 'nothing'.
- A: 'Nothing'.
- B: 'Knowing nothing'.
- I: **Okay.**
- A: So, you see, like, it's kind of funny to almost everyone who is here. So, we might get carried away, and we indulge in enjoying the '*dololo*' word, and then we get carried away.
- D: Instead of... yeah.
- A: Then, sometimes you may see that even the person who is writing, if it's a write-up, the person may even throw away the books and the pen. So... and we then

talk about the thing that will be taking place, like the '*dololo*' word that just popped out of nowhere. So, you will see that effectiveness on the time thing is now, like, nothing we can say is taking place.

[Participants laughing]

I: Okay.

C: And I think, time is only used effectively if it's in a lecture – if it's in a lecture theatre. In a lecture situation, right, the lecturer is in front. He gives you a certain topic, right, and asks you to discuss as a small group, right, then present to him. I think that's when – in fact that's when time is only used effectively. But if he gives us the presentation or the assignment then tells us to go outside and discuss as a group, even if it's just outside the classroom we might get carried away with something. We might even start laughing about bees, then forget the assignment. Then after two or three minutes, then we start saying, 'The assignment!' I don't think time is used effectively if it's outside the learning environment. But if it's within the lecture theatre or the auditorium I think that's when time is used effectively.

E: Yeah. Plus, nowadays with the introduction of WhatsApp technology. Ah, remember that day when we were in Mucheke, busy writing our group assignment? People were busy capturing, taking pictures. So...

D: Group selfies!

[Participants laugh]

C: That's what we do!

**I: Okay. So, what are the benefits of cooperative learning?**

E: As for me, I can feel love and belongingness. I can feel that I am recognised in the classroom or in a lecture room or elsewhere.

A: Personally, I would say, personally I hate being bored by these tasks that we have as students. So, when we do things like group assignments and group presentations, when I do it with my peer Knowledge, like you heard him referencing "...back at Mucheke that day". We were having – we had fun at Mucheke. But we did the presentation. So, it makes me get into the thing, while enjoying it. I respond and write to the questions, while enjoying the task that I am doing because I will be having my peers around, whom I enjoy spending time with. No matter what I'm doing, but as long as they are around, I enjoy whatever it is that I will be doing at that time. So cooperative learning makes me enjoy the tasks that I do as a student.

B: Okay, again, academically, because these cooperative learning are done not for granted – they are done for academic purposes. So, when we do something as a group like group presentations, group assignments, we will come up with a good essay, which is going to be recorded. And I'll know when I'm writing my exam, I know my coursework is super, it's that good. So, I'll be not fearing the exam. So, I think we benefit a lot.

D: Okay, to add on, I think cooperative helps because it... Okay, CL puts some sense of responsibility in an individual. Because you know that your group

members are depending on you. Let's say we divide points. I give Tino this point – I know that my group is waiting for me to come up with something, to develop the point and then to explain to others. So, it brings a sense of responsibility on an individual.

- C: Umm, the other thing, as an individual, with CL I think I benefit more 'cause, when the teacher is explaining, right, I might not get to argue with whatever he is saying, right. But if my colleague says something, right, I can criticize his point right, because he's my peer. We're of the same age. But with the teacher, I might say 'Ah, if I criticize his or her point, what if she removes some marks on my final examination mark?' Because I don't know what he or she will be thinking. Teachers, umm, our lecturers are different. So, if my peer says something right, I can criticize him umm, openly, unlike a lecturer. So, I think it's good 'cause I'm able to criticize and then come up with a conclusion as peers unlike with a lecturer.
- E: I think CL can boost self-confidence. For example, let's say you are doing a group presentation. The way you stand together as a group in front of the lecture room, I can terminate that self-fear of stage.
- A: Yeah, like, even the way we did our Psychology presentations, right. You will say, like, there are some instances like, when doing a presentation, you will depend on one presenter. But that thing was eliminated on... when we did our presentations under Psychology. You will see that every individual who was part of a certain group was made to have a floor, a platform to say something. So, you will see, as we're talking of confidence, like stage confidence like Knowledge mentioned, you will see like when you are forced to present, when you feel like 'I have to', you may be not having the thing in you. But when you go to present, somehow it will give you that courage to, like when you have another platform next time, it will never be the same. Because you will have done that through the CL thing.
- E: And again, we can cultivate friendships during these, umm, when we will be conducting our presentations, our group presentations. We get to know each other – it's very crucial because we are not like animals. We have to relate to each other, we have to belong to someone. And I think based on this argument I can say we are benefitting a lot through these interactions.
- C: And also, with cooperative learning, through working in groups right, we are able to solve our conflicts. Because we cannot work together if we are enemies, right? So, we have to befriend each other so that we can work cooperatively. So, I think it's also good, 'cause it... it solves all the conflicts and the differences that we have, so that we can come up with something that is solid as a group. So, I think it's good.
- I: **Wow. Thank you so much.**